

SEPTEMBER–OCTOBER 2015

# ARMY SUSTAINMENT

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# TRAINING SUSTAINMENT

## Preparing Soldiers for the “Next” War

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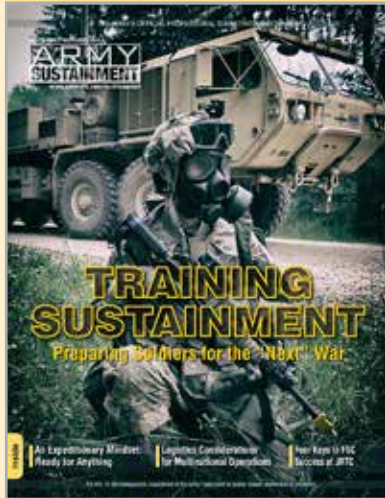
An Expeditionary Mindset:  
Ready for Anything

Logistics Considerations  
for Multinational Operations

Four Keys to FSC  
Success at JRTC



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*Spc. Jacob Stinson with the 3rd Brigade Support Battalion, 1st Armored Brigade Combat Team, 3rd Infantry Division, scans his sector of fire during Combined Resolve IV at the Joint Multinational Readiness Center in Hohenfels, Germany, on May 21, 2015. (Photo by Spc. Shardesia Washington)*

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PB 700-15-05  
VOLUME 47, ISSUE 5  
SEPTEMBER-OCTOBER 2015

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*Army Sustainment* (ISSN 2153-5973) is a bimonthly professional bulletin published by the Army Logistics University, 2401 Quarters Road, Fort Lee, Virginia 23801-1705. Periodicals postage is paid at Petersburg, VA 23804-9998, and at additional mailing offices.

**Mission:** *Army Sustainment* is the Department of the Army's official professional bulletin on sustainment. Its mission is to publish timely, authoritative information on Army and Defense sustainment plans, programs, policies, operations, procedures, and doctrine for the benefit of all sustainment personnel. Its purpose is to provide a forum for the exchange of information and expression of original, creative, innovative thought on sustainment functions.

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# An Expeditionary Mindset: Ready for Anything

The Army needs a well-planned and well-executed logistics leader development campaign in order to develop an expeditionary mindset.

■ By Lt. Gen. Gustave “Gus” Perna



To make this transition successful, we must develop an expeditionary mindset among Army logisticians.

The urgency of training logistics leaders to perform expeditionary logistics hit home for me earlier this year when I spoke to a thousand majors in the Command and General Staff Officers' Course at Fort Leavenworth, Kansas. Many of these top-quality officers had served on multiple deployments to Iraq or Afghanistan. However, they all entered the Army in 2003, so they are heading out to run battalions and brigades having never seen expeditionary tasks performed. They are not alone.

## The State of the Force

Today, eight out of 10 Army officers and enlisted Soldiers joined after 9/11. The Army they know is an Army of nearly unlimited resources, with war materiel often delivered, stored, maintained, and even deployed by contractors.

The decisions to execute Army logistics in that way were made for the right reasons at the time; the resulting processes worked well for the wars in Iraq and Afghanistan. We followed a well-defined model, Army Force Generation, which allowed us to focus readiness efforts for specific units, times, and missions. But gone are the days of predictable rotations. We have new missions all over the world, and now we have to be ready for anything at any time.

## An Expeditionary Mindset

To make this transition successful, we must develop an expeditionary mindset among Army logisticians.

Developing this mindset will require a well-planned and well-executed logistics leader development campaign that provides logistics leaders with the training, education, and experience necessary to support an expeditionary Army.

As an initial part of that effort, the Army G-4, the deputy commanding general of the Army Materiel Command, and the commanding general of the Combined Arms Support Command are serving on a Logistics Leader Development Board. We are conducting whiteboard sessions and looking at how we will sustain a globally responsive and regionally engaged Army with fewer resources and with equipment far more complicated than it was before 9/11.

We are asking the following “big picture” logistics-related questions:

- ☐ Does logistics doctrine meet the needs of our nation and future operations?
- ☐ Do we have the right logistics force structure in the right place?
- ☐ Are logisticians taught what they need to know?
- ☐ Are exercises training logisticians for the next war or the last one?
- ☐ Are logistics leaders getting the right mix of developmental and broadening assignments?

## A Good Start

I am happy to report that we are making progress. For example, at the Joint Multinational Readiness Center in Hohenfels, Germany, we





*A 1st Armored Division Soldier ground guides a Stryker vehicle into position as part of a refuel on-the-move during Iron Focus at Fort Bliss, Texas, on March 30, 2015. (Photo by Staff Sgt. George Gutierrez)*

are focusing on multinational expeditionary logistics.

This issue of *Army Sustainment* contains articles on the essential, but often neglected, logistics considerations that are being taught at that center and that will prepare us for the challenging missions we expect to receive.

Warrant officers and noncommissioned officers also are stepping up. We are integrating them into junior leader programs at the Army Logistics University so that young lieutenants can better relate to and learn from them.

### **More Change Needed**

Junior Soldiers are not the only ones who need to transition. For those of us who have been around for a while, when was the last time you conducted a refuel on-the-move or set up a forward arming and refueling point? It has probably been at least 10 years because those techniques were rarely used in Iraq and Afghanistan.

We have a generation of senior

noncommissioned officers and officers who have no experience with tactical water and fuel distribution, Army field feeding, forward ammunition handling, field maintenance, and many other basic life-support functions because we have been paying contractors and host-nation personnel to perform these tasks.

We also need to enable our Army civilians to think with an expeditionary mindset. During the recent wars, many civilians deployed forward and were invaluable; but because their focus was solely on supporting warfighters for so long, they missed opportunities for professional development, including going to school. This problem was compounded by the necessary use of contractor support, which eroded some of their existing skills just as it eroded Soldiers' skills.

As the Army transitions from more than a decade of scheduled deployments, it must renew its emphasis on training the fu-

ture force. This force likely will not have the predictable rotations that we became accustomed to and probably will not operate from well-established forward operating bases. However, it will be a force expected to respond with little or no notice to missions in austere areas anywhere in the world.

Based on all the leadership discussions incorporated in this issue, I am confident that we are heading down the right road. However, continued leader focus will be required to make sure we achieve the right balance of training, education, and experience to get there.

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# Defining Analytics and Its Supporting Role in Military Logistics Intelligence

■ By Dr. Christopher R. Paparone and George L. Topic Jr.

We all hear discussions about the importance of analytics, and it is reasonable to perceive that we are at the front edge of a major innovation associated with the effective use of actionable information in planning and managing logistics support.

The word “analysis” comes from a Greek word meaning “to resolve into parts.” When its first two syllables are combined with “mathematics,” the word “analytics” is created, describing a quantifiable approach to resolving problems.

Analytics is often coupled with metaphors, such as big data, data warehousing, and data mining. Senior logistics leaders want to ensure they are developing successors who are able to use analytics in their work. However, the shared meaning of the word is ambiguous.

We suspect that sometimes analytics has become a euphemism for “I don’t know what it is, but I know I want more of it,” especially in light of the penchant to remove as much uncertainty as possible and the massive amount of data available through enterprise resource planning systems.

Business literature is replete with articles and books about “business intelligence,” generally oriented on data science (tools to analyze), predictive data (forecasts for planning), and big data (deciding what data is relevant to a problem set). Businesses are motivated to find efficiencies to increase profitability and still satisfy customers. However, Department of Defense supply chain managers are more interested in effectively supporting unified action that satisfies foreign policy objectives.

In our search for a reasonable and accessible work about analytics, we discovered a remarkable synthesis of ideas in *The Oxford Handbook of Evidence-Based Management*, edited by Denise

M. Rousseau of Carnegie Mellon University. Rousseau presents a scalable framework that we recommend military logisticians at all levels consider. Evidence-based management (EbMgt) subordinates analytics as one facet of a greater purpose: improving organizational learning and decision-making.

Rousseau states that EbMgt “is a knowledge-intensive, capacity-building way to think, act, organize, and lead” that uses “(1) . . . scientific principles in decisions and management processes, (2) systematic attention to organizational facts, (3) . . . critical thinking and decision aids that reduce bias and enable fuller use of information, and (4) ethical considerations including effects on stakeholders.”

In the context of military logistics, we suggest rebranding Rousseau’s EbMgt model as a “military logistics intelligence” framework with the same purpose of improving organizational

learning and decision-making. (See figure 1.) The framework is presented in a scalable, military variant from the tactical and theater levels to the enterprise level.

Our core concern is that the term analytics is too constraining to stand alone for logistics decisions. We believe the concept of military logistics intelligence extends the purpose of analytics to be part of a larger learning and decision-making strategy for military logisticians and is designed to enhance their connections to the enterprise.

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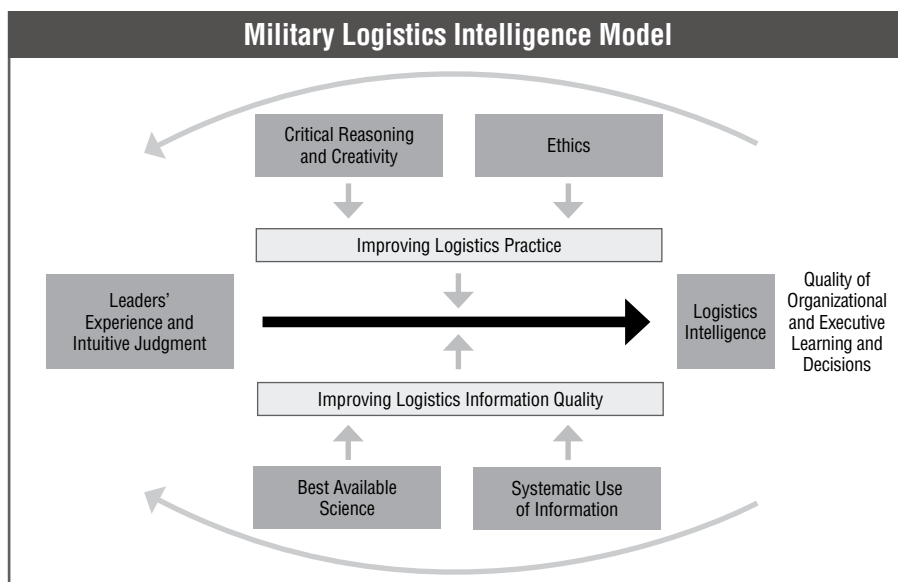


Figure 1. This model, based on Denise M. Rousseau’s evidence-based management framework, provides the key elements necessary for military logistics intelligence, including the systematic use of information, which includes analytics.



*The 64th Brigade Support Battalion conducts resupply operations to patrol bases in Sadr City, Iraq, in early 2008.*

# Trained and Ready Logistics Forces

■ By Col. Robert L. Hatcher Jr.

The intent of senior Army leaders is clear. They will not forsake the hard-earned experience and readiness of our forces as operations shift and budgets shrink. Logistics warriors, such as those assigned to the brigade support battalion (BSB) in a brigade combat team (BCT), have a duty and obligation to maintain their combat edge in order to ensure the Army remains the most capable land force in the world.

“Warrior logisticians” is the best description of our combat-tested lo-

gistics Soldiers, but it has not always been so. The idea of the warrior logistician was part of the Army’s vernacular well before the recent decade of conflict, but the logisticians’ war-fighting skills were not honed until it became necessary.

In the 1990s, little training existed for logistics Soldiers to learn their warrior tasks and battle drills. In my experiences, training was flatly discouraged because of the daily need to execute logistics functions in shops, warehouses, and motor pools. We

simply did not train as though we would one day have to fight.

The events of 9/11 brought a dramatic change in training emphasis. Today we resource logistics units to be survivable and capable of defeating armed attacks. We must be fit to fight individually and collectively.

Being a warrior is a state of mind produced by the state of training. Current Army training and equipment for first-line warriors the best it has ever been. However, a budget and time crunch commensurate to that of



the early 1990s might compromise our Soldiers' current level of training and equipping.

### Pre-9/11 Training Attitudes

As a young headquarters and headquarters company commander, I was responsible for perimeter defense in Taegu, South Korea. Our assets were minimal. We had two tactical radios and two MK19 gre-

This state of readiness was indicative of an underresourced military. Being underresourced can greatly affect attitudes toward readiness.

### An Attitude Adjustment

The Army has improved exponentially. After the 2003 invasion of Iraq, the Army quickly reshaped its ability to enable Soldiers to fight. As Army divisions marched to Baghdad, they

Applying meaningful conditions to training better prepares the Soldiers and gives them more self-confidence.

nade launchers plus a standard complement of small arms.

The previous commander had not even unpacked and assembled the MK19s, ordered magazines and cleaning kits for the weapons, or even encouraged much training on them. We were not trained and ready to defend our base in South Korea if there was an unanticipated attack.

This reflected a poor attitude toward training and readiness. Physical training was shunned by our senior leaders. The staff actively encouraged us not to train the unit because it could be disruptive to our logistics mission. Few participated in training or ensured we improved our standards of mental and physical hardening that war would require.

There were a few exceptions to the rule, but the command climate stifled our combat preparedness. Despite this, the company spent the next year working on these basic requirements: physical, mental, moral health, and combat readiness.

One might think that this command climate was an isolated example in a headquarters at an echelon above division. Unfortunately, I experienced these attitudes across several assignments as the Army struggled with a poor state of readiness at all levels.

bypassed isolated elements. One of my fellow commanders recalls how his forward surgical team had to repeatedly engage a very determined and well-equipped enemy as it moved north behind the division it supported.

The story of Pfc. Patrick Miller, 507th Maintenance Company, who received a Silver Star after Iraqis ambushed his convoy in An Nasiriyah is one example of the Army's shortcomings at the time. By his own account, he was not qualified on his weapon, it malfunctioned, and he lacked a warrior's ethos. In his own words, he admitted that he was only there as a mechanic. Incidents like this made Army leaders at all levels realize that all Soldiers needed to be well-equipped, well-trained, and mentally prepared to fight.

### Addressing Shortcomings

The Army started transforming while at war. Early on, it instituted a rapid fielding initiative to purchase Army-issued individual equipment and unit items that most professional Soldiers were paying for out of pocket.

Next the Army identified the great need to send certified and well-trained forces to the fight. Units spent more time on ranges and conducted more realistic training. The

National Training Center at Fort Irwin, California, transformed into the environment we were experiencing overseas, and its opposing force started using insurgents to attack rear-echelon Soldiers.

The Training and Doctrine Command also transformed. In 2006, the Quartermaster General implemented warrior training in Quartermaster advanced individual training courses. This was initially considered disruptive because it took great effort to resource and creatively use assets to train logistics tasks and warrior tasks simultaneously, but it was essential. Logistics Soldiers must be able to fight and win, and the classroom does not prepare young Soldiers to do that. Applying meaningful conditions to training better prepares the Soldiers and gives them more self-confidence.

### A Training Paradigm Shift

The 11th Armored Cavalry Regiment (ACR) commander, Col. Peter C. Bayer Jr., had a lasting effect on my thinking as we prepared for our 2005 deployment. The unit naturally became focused when it received its deployment orders, but the real transformation went deeper. The physical demands, tough and realistic training, and better resourcing all had to be the focus of leaders.

Our leaders focused their energy on doing the important things and reinforcing them through their example and presence. Every decision was focused on achieving the same conditions we would experience when deployed. When a tank had an accident on the range, we did not go into an administrative safety stand-down. We trained while we took the tank off line. It almost sent the range control element into shock, but our post commander approved of the action. War does not stop for accidents.

### 64th BSB Prepares to Deploy

Even units that had been deployed were still balancing resources and missions between deployments. The 64th BSB, 3rd BCT, 4th Infantry



Division, from Fort Carson, Colorado, which had been on stop loss for five years, was on a 15-month deployment to eastern Baghdad. These Soldiers were very good medics and logisticians, but there were changes in their mission that would demand warrior skills. The unit had to adapt, and the Soldiers' foundational skills, along with proper resourcing, would enable it to do so.

Counterinsurgency doctrine permeated the BSB's training regimen. The BSB expected to be the best equipped force in the Army since armored platforms kept getting better, radios and machine guns would be resourced through an operational needs statement, and training was a priority. Although everything the BSB needed was not yet in the modified table of organization and equipment, it could be acquired if justified.

Unfortunately, many of these assets were not available prior to deployment, but the BSB would get them in Iraq. However, it needed the armored vehicles in a training set, the M240 machine guns on the ranges, and mission command technology, such as Force XXI Battle Command Brigade and Below (FBCB2), in greater quantity. The Army was simply stretched too thin to have FBCB2 systems in Iraq, Afghanistan, and at home station.

Col. John H. Hort, the brigade commander, and Command Sgt. Maj. Daniel A. Dailey, now Sergeant Major of the Army, understood training and warfighting. They pushed us relentlessly to be as proficient as any warrior in the BCT yet still demanded world class support, a challenge any logistics commander would relish.

First and foremost, individual training was unsurpassed. The BSB set the daily priority for demanding physical fitness training (PT). Units are often tempted to forgo PT in lieu of other mission demands. Leaders must be ruthless to enforce the tempo and cohesion this golden hour of PT allows. We had no qualms telling outside agencies that nothing started



*Sgt. David Marion, a petroleum supply specialist from A Company, 64th Brigade Support Battalion, 3rd Brigade Combat Team, 4th Infantry Division, provides security while medics administer first aid to a logistics convoy Soldier at Fort Carson, Colorado. This was part of a September 2007 exercise that was conducted before the unit deployed to Iraq. (Photo by Staff Sgt. Shawn Weismiller)*

in the BSB before PT was complete at 0900.

Our marksmanship was the best I had ever experienced. We had a five-level process to master rifleman standards in the BCT. While the BSB only needed to progress to level II, we were afforded the time, money, and ammunition to fire hundreds of rounds per Soldier to fa-

miliarize, zero, qualify, and conduct close-quarters drills with our weapons. It may seem unnecessary to have close-quarters drills with a preventive medicine Soldier, but later that year medical Soldiers secured the streets of Baghdad under enemy fire with confidence.

All Soldiers were combat lifesaver qualified, participated in combative

exercises, could use the newest radios, were familiar with talking to air weapons teams, understood BSB mounted and dismounted battle drills, and were gaining confidence in themselves and their fellow Soldiers daily as they neared deployment.

### **Tough Training Pays Off**

Collectively, the formation's effectiveness revolved around the logistics convoys. Forming battalion task force convoys was the first priority. The BSB could not effectively move from Taji every day to eastern Baghdad and perform supply, maintenance, and medical missions unless it could survive the trip.

The brigade did not have assets to allocate to BSB security, nor should it have needed to. It formed security patrols using the 4th Infantry Division's Ironhorse "Big 8" prepatrol activities (operation order, graphics, precombat checks and inspections, rehearsals, security and force protection, reconnaissance and surveillance, time management, and composite risk management) and the same standards of patrol preparation, rehearsal, execution, and debriefs used by every combat formation.

The BSB's standard became the brigade standard for all patrols outside of combat formations as it became the owners of the brigade standard operating procedures. It also conducted a situational training exercise for all forward support companies.

My most vivid memory of setting the toughest conditions for training came from an event on a convoy live-fire range. The range officer, who was the ad hoc gun truck platoon leader, wanted the patrols to dismount during the event and have to engage targets.

Several noncommissioned officers argued convincingly not to dismount—not even for a flat tire or loose load—because it was dangerous. I pointed out to them that if dismounting was the worst-case scenario to train for operations in Iraq then that is exactly what we needed to do. Little did we realize that in a few months dismounting would be

a nightly activity for the 15-month rotation as we conducted barrier missions and resupply throughout eastern Baghdad.

### **Intelligence Information**

The BSB's convoy missions were also a value added to the brigade counterinsurgency effort. The BSB was a significant source of intelligence to the brigade S-2, and debriefs were always conducted with all team members. The most trivial observation from a driver could be significant to the S-2.

The BSB took it seriously that every Soldier was a sensor and an ambassador. We spent many hours at night talking to Iraqi people and security forces, bringing back vital atmospheric and gaining the trust of those we met.

BSB Soldiers were constantly and relentlessly trained in escalation of force and rules of engagement procedures and how to clear their weapons—skills that must be sharp from 2 to 5 in the morning. We also were a significant disruption to nightly enemy activities on main and alternate supply routes throughout the area of operations. You cannot help but disrupt enemy plans if you are straddling routes for eight hours, dropping barriers, and making quick resupplies to nearby forward operating bases between 11:00 p.m. and 6:00 a.m.

### **Support to Remote Locations**

In order to further enable the brigade's forward and dispersed presence, the support operations office and company commanders formed logistics and medical road shows to sustain the BCT. These warriors worked within their skill sets to bring vital sustainment to our remote patrol bases and forward operating bases that had little contracted support. It is astonishing how the small sections resident in BSB maintenance and medical companies can keep a BCT combat effective.

Intuitively, anyone can understand the persistent need of preventive medicine, mental health, physical therapy, dental, missile maintenance, allied

trades, communications and electronics, and armament sections for the unit's effectiveness. The teams were on a monthly circuit of 10 to 12 bases throughout the sector.

We sent support operations experts for ammunition to evaluate ammunition storage, medical personnel to look at clinics and quality of life, and the Sustainment Automation Support Office to keep assets online. Although they worked solely within their skill sets, they moved in patrols, defended themselves in these remote locations, and confidently employed their basic warrior tasks every day.

Most importantly, the BSB Soldiers could defend themselves and they kept the brigade forward focused. Not only were the BSB Soldiers fit to fight individually, but the BSB provided its own gun truck platoon, which was a significant resource for the unit. The BSB was a self-sufficient enabler to the brigade.

The Army has a history of rising to the occasion. However, we do not want to depend on this ability. Instead, the Army should maintain the level of training and maintenance needed to keep it a ready force.

How can the Army maintain this level of readiness? The answer is leadership, but it is also prioritizing and resourcing. Our logistics warriors, and more accurately all Soldiers, deserve the training and equipment to make them combat effective.

Balancing tactical training with support skill sets is critical for a lean Army. The Army must provide its units with the time and resources to do their jobs. The Army, from tooth to tail, must have the ability to fight and survive first contact with the enemy and the staying power to win.

---

Col. Robert L. Hatcher Jr. is the chief of staff of the Combined Arms Support Command at Fort Lee, Virginia. He commanded the 64th Brigade Support Battalion for 25 months at Fort Carson, Colorado, and in Iraq.





*Tech. Sgt. Stuart Link, an air transportation specialist with Combined Joint Special Operations Task Force–Afghanistan, loads cargo onto an MC-130 aircraft in order to push supplies out to forces on the ground. (Photo by Sgt. Justin Morelli)*

# The Need to Expand Training and Education on Nonstandard Logistics

■ By Capt. Christopher J. Sheehan

The U.S. Army Special Operations Command is focusing its efforts on meeting the future national security objectives and has published Army Special Operations Forces (ARSOF) 2022, which outlines the ARSOF vision and priorities. In line with this vision is a return to ARSOF's roots in unconventional warfare (UW).

UW is defined in Training Circular 18-01, Special Forces Unconventional Warfare, as "activities conducted to enable a resistance movement or insurgency to coerce, disrupt, or overthrow a government or occupying power by

operating through or with an underground, auxiliary, and guerrilla force in a denied area."

A denied area may be defined as a foreign nation in which ARSOF activities are semipermissive or nonpermissive. This means that ARSOF cannot operate openly and all activities must be conducted secretly.

Conducting UW operations in a denied area presents a complex, multifaceted environment that changes depending on the region, partner nations involved, and level of activity. Conducting UW in a sovereign nation that is surrounded by U.S. allies and contains

forward deployed conventional force brigade combat teams is much different than a hostile nation that is partially surrounded by unwilling nations that do not permit U.S. embassies or a U.S. footprint whatsoever.

Because this global need changes depending on the operational environment, UW operations and systems will not be one-size-fits-all solutions. One of the key components to this flexibility in UW is nonstandard logistics (NSL).

## Defining NSL

NSL may be defined as the use of

existing logistics systems in support of special operations in a known capacity or the use of unique nonmilitary logistics systems in support of special operations. Although the doctrinal definition for NSL is still in development, one common theme in all its unofficial definitions is the use of common and uncommon systems and mechanisms tailored to meet special operations.

NSL is a thought process of how to execute logistics operations that are fundamentally different from conventional force logistics. Similar to UW as a whole, successful NSL is not a cookie-cutter solution; rather it is a collection of tried and true principles and methods.

Recognizing the complex and important nature of NSL, we must be clear about the gravity of its success. Poor NSL can be the single point of failure in UW operations and can lead to loss of life and assets as well as a tactical and strategic mission failure with national security ramifications.

### UW Training and NSL

With the understanding that NSL is a critical subtask of UW, we can pull out several main lessons from recent ARSOF training exercises. At the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, the Special Operations Training Detachment (SOTD) has created a complex and joint UW environment in which

ARSOF units can train.

The SOTD has enabled ARSOF units to operate at the team, company, and battalion or task force levels in a joint, interagency, intergovernmental, and multinational (JIIM) environment. Many of these exercises are conducted through interdependent operations with a brigade combat team of conventional forces.

With special operations task forces (SOTFs) conducting UW exercises in 2013 and 2014, SOTD observer-coach/trainers and JRTC role players have gathered critical lessons learned in the realm of conducting NSL in a sovereign nation.

ARSOF units conducting home-station training and SOTFs training at JRTC tend to lean toward kinetic operations and away from less glamorous activities such as NSL. This is understandable given ARSOF Soldiers' familiarity with kinetic operations, but it can be a pitfall to understanding the important symbiotic relationship between actions on an objective and all of the supporting efforts that enable that action.

Nothing is exclusive; all UW activities are bound together in a mutually supporting success-or-failure relationship. This inclusion of leaders and planners at all levels and the use of JIIM partners in conducting both UW and NSL must become a cultural and doctrinal habit that the ARSOF community teaches, trains, and

executes in order to be successful.

As rotational training SOTFs learn how to conduct UW more effectively during JRTC exercises, SOTD has the unique ability to gather lessons learned and facilitate an educated dialogue across ARSOF about the future of UW and NSL.

### Lessons Learned

During the JRTC rotation 14-05 in-progress review held at Fort Bragg, North Carolina, SOTD facilitated a conversation about the future of UW and NSL with JIIM partners and leaders from every corner of ARSOF. With command guidance and ARSOF 2022 in mind, this in-progress review produced many tangible lessons for improving ARSOF as a UW force.

One of the most important and prevalent lessons learned while observing SOTFs executing UW and NSL in a UW environment was that the right people need to be involved both horizontally and vertically in planning and executing NSL. Although the sustainment warfighting function is normally relegated to only a few staff members and forgotten about, it is important to remember that in a UW environment, NSL is, in essence, a tactical mission that also involves logistics.

This means that both ARSOF logisticians and senior and expert ARSOF Soldiers need to partner at all

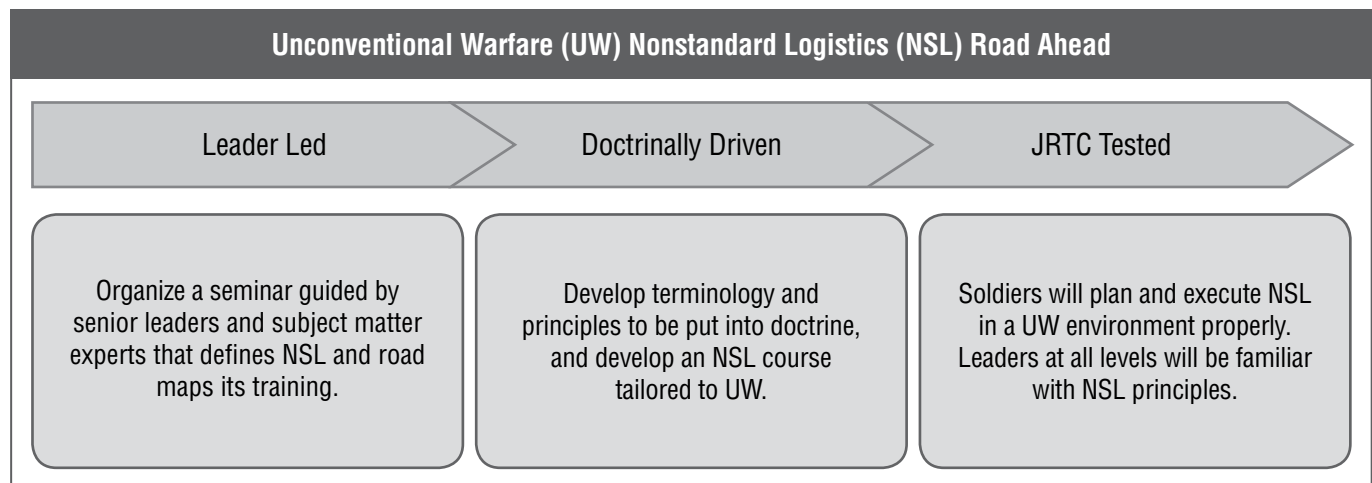


Figure 1. This figure describes how nonstandard logistics training could be expanded and validated.



levels in planning and executing NSL. This fusion of operational experience, resistance network building and use, and the planning and resourcing of logistics is critical in ensuring that all logistics operations maintain operational security.

Although normal logistics methods place speed and efficiency as king, in the UW environment, security and effectiveness are the crux of success. In this nonpermissive environment, any signature or evidence of an ARSOF operation can lead to strategic failure and drastic consequences.

During a recent UW exercise with a “routine” logistics push of a small item to an ARSOF team in denied territory, the operation was not fully planned and vetted. The failure enabled the package to move forward from one sovereign nation into a nonpermissive sovereign nation without being properly sterilized of all U.S. markings. This exposed the team that was deployed forward conducting UW. The team had to abandon its mission and evacuate to a friendly area to avoid capture.

This lesson was learned at JRTC, but had it occurred in real sovereign nations the consequences would have been catastrophic. Whether this error was because of a lapse in supervision or lack of fusing the right people to plan operations, it underscores that conducting NSL is a zero-defect game in the UW environment. It must be planned with the same level of detail, command oversight, and inclusion of key SOTF personnel as would be used in a nighttime high-altitude, low-opening infiltration.

## Expanding NSL Training

Another shortfall observed was the need for a periodic gathering of ARSOF experts and leaders to share, learn, and discuss NSL operations in a UW environment. A semiannual or annual seminar that focuses on the planning and execution of NSL in an UW environment would fulfill this need.

This seminar should include senior and expert ARSOF leaders who are

Proposed Topics for Nonstandard Logistics (NSL) Training
1. Teach “how to think” not “how to do.”
2. The consequences of a compromise of the NSL effort in a sovereign nation environment.
3. Building, deconflicting, and leveraging joint, interagency, intergovernmental, and multinational partners and their capabilities.
4. The basics of unconventional warfare.
5. Foreign intelligence effects on NSL.
6. Calculating risk versus gain in distribution using NSL mechanisms.
7. Using commercial and unwitting logistics mechanisms.
8. The basics of managing an NSL network.
9. The basics of employing mechanisms to support NSL efforts.
10. Funding, titles, and authorities.
11. Signature management.

Figure 2. Proposed subject areas for nonstandard logistics training.

adept at resistance network building and use. Including leaders from the team, company, and SOTF levels would provide a shared understanding throughout the planning and execution phases of NSL.

ARSOF logisticians should also participate to add knowledge of logistics operations, both conventional and nonstandard. All members of the ARSOF community should be invited since all members contribute to UW operations.

It must be understood that this course is for planners, leaders, and individuals who execute NSL operations. Recognizing the importance of including all three of these participants is critical to successful horizontal and vertical integration.

This seminar would not be a course to certify attendees in the execution of NSL. Instead, it would be a valuable knowledge-sharing opportunity that would allow a diverse, expert, and professional collection of JIIM partners to lay the groundwork for doctrine, training, and future operations.

This seminar would provide Army Special Operations Command leaders with actionable guidance for creating and improving a formal course on NSL. Figure 2 provides a list

of topics that have been observed through training rotations and discussions with ARSOF leaders. These subject areas could be used as seminar topics or to develop a program of instruction for NSL.

Currently the ARSOF team only briefly discusses NSL during small blocks of training in particular courses. There is a critical need to expand on the current discussion and facilitate an educational dialogue that will enable all attendees to understand the fundamentals of NSL. Incorrectly packaging and shipping an iridium phone into denied territory can be just as deadly as a false reading on an altimeter gauge during free fall.

Capt. Christopher J. Sheehan is the logistics observer-coach/trainer for the Special Operations Training Detachment at the Joint Readiness Training Center at Fort Polk, Louisiana. He holds a bachelor's degree in history from the University of North Carolina at Chapel Hill. He is a graduate of the Transportation Basic Officer Leader Course and the Combined Logistics Captains Career Course.



*Petroleum supply specialists from the 16th Sustainment Brigade's 240th Quartermaster Company, Spc. Wayne Burch (center) and Sgt. Joey Patague, work with the French Army's 126th Infantry Regiment soldiers to refuel a vehicle at the Joint Multinational Readiness Center in Hohenfels, Germany. (Photo by 1st Lt. Henry Chan)*

# Multinational Logistics Interoperability

Communication, cooperation, and equipment compatibility are the keys to multinational task force logistics support.

■ By Capt. Theresa D. Christie

Sun Tzu once said, “The line between disorder and order lies in logistics.” This simple statement has been proven consistently throughout history, and the commander who can ensure secure, consistent supply for his or her Soldiers has the distinct advantage in any conflict. The art of logistics is difficult in any environment, and working with armies from different

countries increases that difficulty.

In a multinational environment, the key difficulty is doctrinal differences. Task organization, equipment allocation, logistics infrastructure, and planning priorities vary from country to country and must be addressed early in the collaboration.

Because of these differences, forces must focus on the basics to ensure support across the supported units.

During Combined Resolve I and II at the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany, three fundamentals arose as the key points of success or failure for multinational task force logistics: communication, cooperation, and equipment compatibility.

## Communication

At the heart of any military op-



eration, the ability and initiative to communicate with all elements is vital to success, and this is a greater challenge within a multinational task force. All supported and supporting elements for the operation must open a dialogue as early as possible in the planning process and continue that dialogue for the duration of the operation. Although teamwork and unity are beneficial, the real focus should be on understanding unit organization and operational missions and impacts.

It may seem obvious, but not every military is structured similarly. From a logistics standpoint, the organic support structure at each level of command will vary from country to country. Fuel, transportation, maintenance, recovery, and field feeding assets may not be able to support as swiftly or directly, or they may be more efficient and expedite the process.

All units need to have a clear understanding of the logistics abilities and requirements for every unit, the processes used for sustainment, and the differences among the nations. With that information, all units must develop a concept of support that incorporates all of these elements and mitigates every shortfall. This concept is critical to continuous and properly anticipated support.

A persistent issue in any multinational operation is language. All units must work together to ensure they are clearly understood and that they clearly understand. This issue is not solved completely by using interpreters, although that is a very good start. Liaison officers need to be emplaced throughout the supported and supporting units to facilitate clear communication among all elements.

Also, doctrinal terms and acronyms need to be used minimally or thoroughly explained to ensure understanding throughout the task force. Although simple, these steps are often overlooked, resulting in misunderstandings and poor support.

With an understanding of the

logistics unit organization and a common operational language, the next point of friction is reporting procedures. Establishing standard operating procedures for the multinational organization is vital. This became an issue during Combined Resolve II. Logistics reporting was not coordinated throughout the brigade task force, resulting in a poor understanding of the units' logistics needs and inadequate resupply time lines.

The formats and information requirements were not coordinated and standardized throughout the brigade. For example, instead of reporting numbers and then assigning a green, amber, red, or black status, they simply reported color statuses. No explanation was given for what numbers or percentages each color represented. This led to many unnecessary emergency resupply missions throughout the rotation, some of which compromised defensive positions and logistics assets.

To alleviate this confusion, subsequent units have learned from this situation and disseminated a standard operating procedure and communication plan prior to the exercise.

Communicating within a multinational task force can be extremely difficult, but it is essential to mission accomplishment. Without the ability to clearly understand requirements and assets, sustainment plans will eventually fail.

Having clear lines of communication throughout the multinational task force opens the door for collaboration among all partners and develops a strong, cohesive, allied force. The effective communication that is established in the planning stage has a positive effect on every aspect of the future operation, not just logistics, and ultimately plays a vital role in the success or failure of the entire operation.

## Cooperation

The linchpin in all multinational operations is a willingness to

cooperate with all multinational partners. While doctrine is a good place to start, every country has different doctrine based on its military experiences.

No doctrine is necessarily better than any other, and all members of the multinational operation must acknowledge this. With that said, logisticians must be flexible and adapt to the requirements of the situation on the ground.

The first step is to incorporate every unit, no matter what the nationality, into the team. We must build the team before the battle begins.

Experiences at JMRC clearly show that forces that emphasize the importance of logistics and invest energy in an inclusive planning process have a much higher success rate in field operations. Units that fail to cooperate in planning find themselves struggling throughout the operation.

There are many ways to incorporate multinational units into the team, but it must be a conscious decision enacted at all levels. Distrust and animosity will grow if Soldiers are not cooperating with their peers from other nations, foreign Soldiers are not receiving the same support, or there are issues communicating at the higher echelons. If it continues, the inability to trust will destroy the partnership.

Once destroyed, confidence and trust are extremely difficult to rebuild. This is not to say that disagreements and misunderstandings will not occur, because they will, but they must be handled with tact. No unit or nation in the partnership can be given preferential treatment.

If everyone is comfortable working together, there should be minimal issues using that cooperation to build unique, multinational support elements. Using all possible assets can create support units unlike anything organic to a unit.

The capability to diversify support elements creates options for the maneuver plan. Multinational support elements that are built with assets

from all multinational partners can support any tactical combination. This is the strength and flexibility of a multinational logistics plan, and this synergy carries over to the entire operation.

Joint Publication 4-08, Logistics in Support of Multinational Opera-

### Equipment Compatibility

Although most NATO allies work with compatible equipment, this is not always the case. Technology does not always work together, and equipment is not always built to the same specifications. This can affect battle tracking, re-

Experiences at JMRC clearly show that forces that emphasize the importance of logistics and invest energy in an inclusive planning process have a much higher success rate in field operations.

tions, discusses many logistics issues but only at the strategic and operational levels.

It is a guideline, but it does not provide tactical-level solutions to the many challenges commanders face. It is up to the commanders on the ground to ensure cooperation throughout the echelons of command and support.

As in any operation, logistics planners must tie into the maneuver plan to ensure consistent, sustainable support throughout the operation. Because of the lack of tactical-level doctrine to direct these operations, the training rotations of Exercise Combined Resolve at JMRC serve as the most valuable tools for both training and developing logistics systems for future operations.

Each training exercise is designed to replicate a NATO task force in which each participating nation can provide only a specific asset, not an entire brigade. It replicates the way the world defends itself and how multinational forces develop internal support systems.

Deciding who is in charge and how all the needs of all of the multinational forces will be met remains one of the biggest hurdles for every training exercise and every real-world operation.

supply requirements, the ability to use certain logistics systems, and all maintenance operations within the multinational task force. It is vital to recognize and plan for the inherent differences and their effects on logistics readiness.

In Combined Resolve I, a seemingly minor piece of equipment created a huge interoperability issue. The Czech tactical refueling vehicles are not compatible with the U.S. bulk fuel transfer nozzles. The type of fuel connector that is organic to the U.S. bulk fuel point is a NATO D-1 nozzle, whereas the Czech port is European Union standard only.

Typically, this D-1 nozzle is compatible with most NATO nations' ports and is a vital piece of aviation refueling equipment. It is not compatible with every European nation or every multinational military unit as a whole, however.

Had this issue been identified early in the planning process, it would not have strained the resupply process and forced significant changes to the support plan in the middle of operations.

Equipment compatibility also affects communication within the task force. In Combined Resolve II, the brigade established primary and alternate forms of battle tracking and logistics reporting through

the Battle Command Sustainment Support System and Blue Force Tracking. The Georgia-led battalion task force had neither of these systems, resulting in poor communication with supporting and supported units.

If this issue had been identified early on, the communication plan could have been altered or assets could have been given to the task force to ensure proper communication throughout the operation.

The diversity within a multinational operation is what makes it unique and powerful. When employed correctly, diversity gives a commander more, not fewer, options. Although these differences require more inventive support plans, the results are well worth the effort.

Multinational interoperability will not work if we cannot logistically support the lowest level. No matter the unit size, type, or nationality, the fundamental principles of sustainment will apply while developing and implementing a support plan. It is through these multinational partnerships that we can prevent, mitigate, and respond to threats to ourselves and our international allies.

Joint and combined logistics operations can be difficult and sometimes ugly, which is exactly why it is so critical to conduct multinational training at JMRC. We must train to fight, defend, and survive alongside our allies. Multinational logistics support is a key determiner of ultimate battlefield and operational success.

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Capt. Theresa D. Christie is a logistics observer-coach/trainer at the Joint Multinational Readiness Center in Hohenfels, Germany. She holds a bachelor's degree in liberal arts from the University of Texas and is a graduate of the Combined Logistics Captains Career Course.

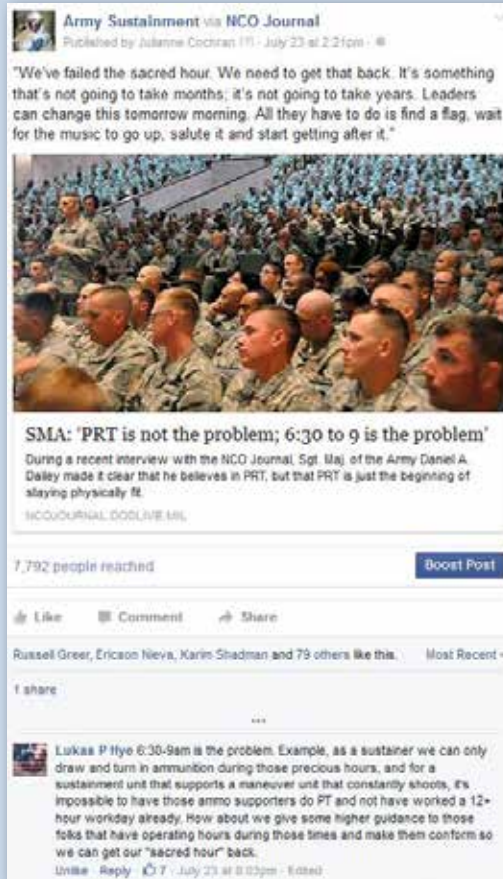


# Let's Talk!

Three years have passed since *Army Sustainment* established a presence on Facebook, Google+, and Twitter. Today we are richly engaged with a combined audience of over 5,000 followers on social media.

That means we are reaching Army sustainers online, and they are telling us what is important to them. So, are you connected with these sustainers and the content provided through social media?

Join the conversation! Pick your favorite social media channel, and like, share, and comment on the sustainment issues important to you and your unit.



- Julianne Cochran Lukas P Hye, I agree that leaders should be held accountable for not interfering with PT when schedules can be changed. However, I also wonder why the golden hour have to be specifically at 6:30. If it is golden, why risk losing it to inflexibility? Different times in my career and life, my workout schedule has shifted to accommodate other missions. I think the key is focusing on doing whatever it takes to get it in.  
Like · July 23 at 3:57pm
- Lukas P Hye Your point is accurate- regardless PT Needs to be done at some point in the day... what I'm saying is it was hard for me to enforce my Soldiers (that section) to do PT for 90 minutes when they were doing constant support missions all day every day 0400-1900 to accommodate civilian ASP schedules. There is a fine line to balance with morale. The sacred hour should be respected for accountability, esprit de corps, and PT.  
Unlike · July 23 at 6:05pm · Edited
- Julianne Cochran Wow, kudos to your Soldiers for maintaining such a rough schedule, especially without the stress relief PT can provide. I totally agree with your perspective. The golden hour should be respected.  
Like · July 23 at 9:22pm · Edited
- Lukas P Hye Josh Meeks David Franklin  
Like · July 23 at 9:32pm · Edited
- David Franklin As sustainers we are the first ones in and the last ones out. People don't realize how much time is put in for every mission. Took me years to get that point across in 1P. Then just as soon as they got the point, they send me to 2P to have to do the same thing all over again. Lol. Nothing happens until something moves!  
Unlike · July 23 at 8:56pm

A 701st Main Support Battalion, 1st Infantry Division, convoy returns from a mission after reaching 1 million miles on the roads of Iraq without suffering casualties. During Operation Iraqi Freedom II, thousands of vehicles traveled over dangerous roads daily to transport supplies to more than 20,000 Soldiers at 28 forward operating bases dispersed over an area of 145,000 square kilometers. You can find the article on page 16 of this issue: [http://www.ala.army.mil/jssu.../SepOct05/pdf/july\\_aug\\_05.pdf#BigRedOne](http://www.ala.army.mil/jssu.../SepOct05/pdf/july_aug_05.pdf#BigRedOne) 1st Infantry Division Sustainment Brigade 701st Brigade Support Battalion



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- Daniel Perez My battalion, my deploy  
Unlike · Reply · July 23 at 4:33pm
- Mark Simerly I remember that day as if it were yesterday. We had tremendous Soldiers in the "Main Team."  
Unlike · Reply · July 23 at 4:34pm
- Will Tackling Brings back memories.  
Unlike · Reply · July 23 at 4:50pm
- Buddy Vest Sorry, God was with them!   
Like · Reply · July 23 at 5:05pm

- Mark Simerly I remember that day as if it were yesterday. We had tremendous Soldiers in the "Main Team."  
Unlike · Reply · July 23 at 4:34pm
- Will Tackling Brings back memories.  
Unlike · Reply · July 23 at 4:50pm



Carlo Arvizu Road Warriors.

Unlike · Reply · 8 · July 23 at 6:03pm



Adria McDowell Likelikelike!

Unlike · 3 · July 23 at 10:45pm



Joshua D White Always brother!

Unlike · 2 · July 24 at 1:33am



Reggie Wilson It's been awhile since we've been able to see each other. This this might sound self...

Unlike · Reply · 3 · July 23 at 1:23am



Karen Twitchell Th...

Unlike · Reply · 1 · July 23 at 1:23am



John Dennis Time f...

Unlike · Reply · 7 · July 23 at 1:23am



Sonja Meade I reme...

Unlike · Reply · 2 · July 23 at 1:23am



Sonja Meade Cra...

Unlike · Reply · 2 · July 24 at 6:10pm



Jerrod Brown 701st in the house, man we put in mad hours that year.

Unlike · Reply · 2 · July 24 at 11:54am



Christina M. Krych So proud of our Main Team soldiers! Such amazing feats and great memories of a job well done. God bless you all wherever life has taken you...

Unlike · Reply · 2 · July 24 at 12:27pm

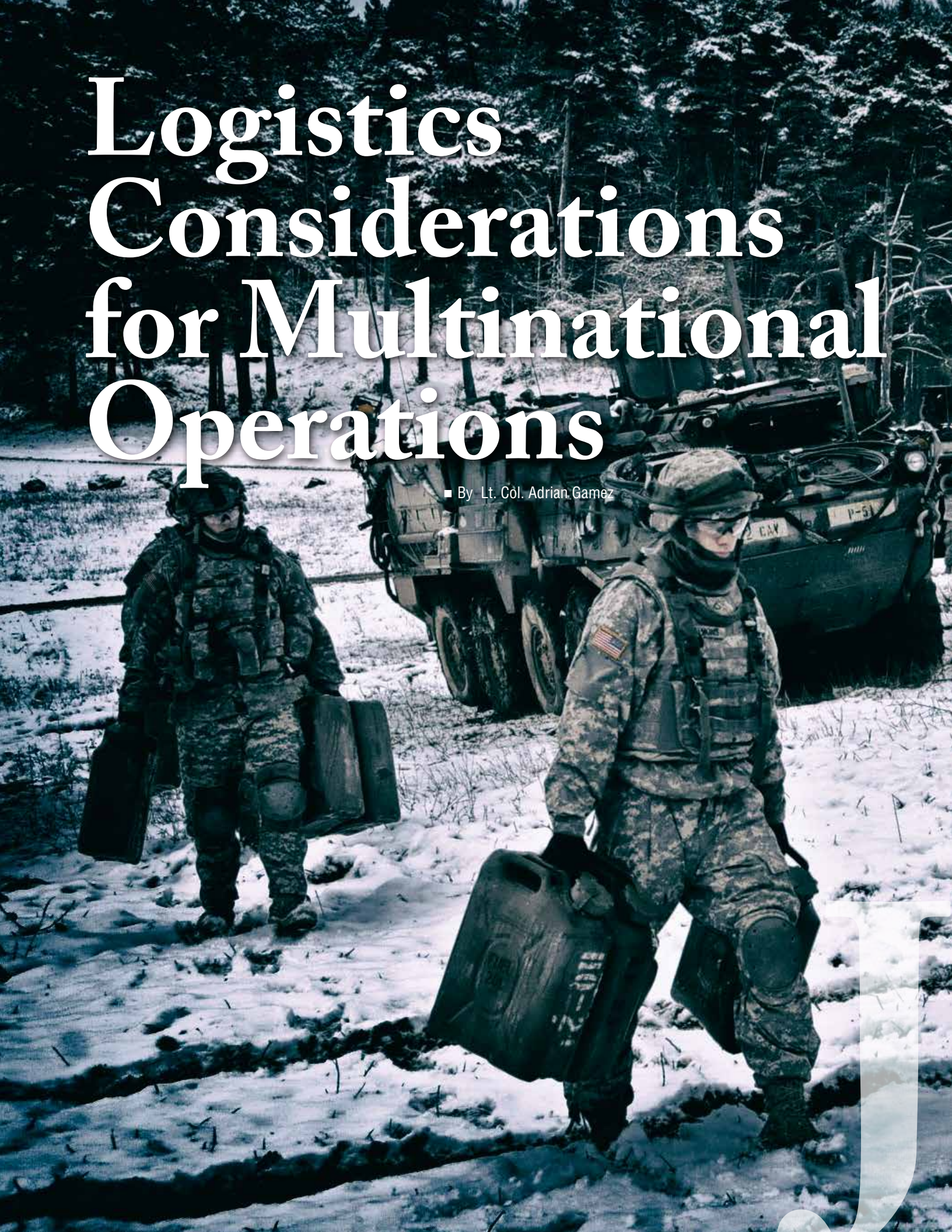
## Join Us!





# Logistics Considerations for Multinational Operations

■ By Lt. Col. Adrian Gamez







*Forward support troop Soldiers from the 4th Squadron, 2nd Cavalry Regiment, deliver supplies at Hohenfels Training Area, Germany, on Jan. 27, 2015. (Photo by Sgt. William Tanner)*

IVTRC



## FEATURES

Understanding six key elements will help logisticians successfully conduct multinational operations at the Joint Multinational Readiness Center.

Succeeding at the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany, is about having aggressively trained formations that can conduct unified land operations. The role of logisticians in these operations is twofold. Not only must logisticians sustain their brigades; they also must perform their wartime tasks, often simultaneously. Brigade and battalion commanders must understand that maneuver formations cannot function without their logistics tails.

Brigade formations do not move without fuel, equipment does not recover or repair itself, Soldiers do not heal themselves, ammunition does not distribute itself, and parts do not materialize out of thin air.

It is only through the concerted efforts of the brigade's sustainment team that it all happens. This article is about the essential, logistics considerations in a multinational environment that are often neglected during a typical JMRC training event.

### Six Elements for Success

To win at JMRC when conducting multinational operations, logisticians must understand and incorporate the following:

- ☐ National caveats.
- ☐ Task organizations.
- ☐ Command and support relationships.
- ☐ Key enabling systems.
- ☐ Maneuver courses of action (COAs) and concepts of support.
- ☐ Support rehearsals.

When logisticians understand these six elements, they are better equipped to plan for and execute sustainment for their brigade combat teams (BCTs) that include task-organized, multinational formations.

Sustainment may be a logistician's responsibility, but this does not alleviate BCT commanders of being concerned about it. Maneuver commanders may want to move their formations, but if they do not consider their logistics tails, they will not be maneuvering far.

### National Caveats

Defense spending is diminishing while international security demands continue to rise. It is more important than ever that we as a NATO fighting force continue to fight together as a multinational force. All contributing nations, including the United States, have restrictions, or "national caveats," to which they are tied.

These caveats outline what their Soldiers can or cannot do and what support their Soldiers can provide during a training exercise. The caveats can vary from tactical applications to which countries can provide medical care for their Soldiers to operational concerns for materiel acquisition.

Before sustainment commanders can truly understand task organizations and the necessary support requirements, it is imperative that their staffs carefully think through what resources each country brings to the fight and at what capacities they can participate.

To mitigate logistics shortfalls, strategic-level negotiations take place with authorities at the State Department, the combatant commands, and Army service component commands. The result of these negotiations is known as an acquisition and cross-servicing agreement (ACSA).

An ACSA is a bilateral agreement between the United States and its allies or coalition partners in exchange for support. This support could include classes I (subsistence), III (petroleum, oils, and lubricants), V (ammunition), and VII (major end items) and transportation. ACSAs are carefully composed to provide mutual logistics support in order to reduce an individual nation's burden, enable flexibility for critical common logistics enablers, and increase interoperability between nations.

ACSAs feed into exercise support agreements (ESAs), which clearly define what countries can or cannot contribute to a training exercise. These agreements are contractual and determine cost estimates for all signing nations. Each participating nation's ministry of defense must sign the





*Capt. Jason Nolan, part of the Joint Multinational Readiness Center Falcon Team, teaches a class of German 472nd Logistics Battalion soldiers about the 9-line medevac report during multinational medic training in Hohenfels, Germany, on March 23, 2015. (Photo by Sgt. Gemma Iglesias)*

ESAs in order to establish the support relationships. Without clear pictures of these agreements, it is very easy to accidentally break the law or spend unauthorized funds in support of multinational partners.

At JMRC, logisticians must carefully consider the resources each nation brings with it as well as what resources the United States is allowed to provide. Not all countries bring the same resources for training and the United States cannot always solve their resourcing shortfalls.

A prime example of this consistent trend was observed during a recent JMRC rotation. One nation arrived with .50-caliber machine guns but did not bring firing pins.

JMRC saw that its supply system had the same firing pins in stock, but it could not legally provide that nation with the firing pins needed for the training exercise because resupply for weapons parts was not included in the ESA for that exercise. This same issue can arise for any type of support if it is not clearly anno-

tated in the ESA and understood by the sustainment personnel on the ground.

National caveats and international agreements are critical elements of operating with multinational task forces. The training at JMRC provides insight to these challenges that will be faced in any coalition partnership in the future.

### **Task Organizations**

JMRC asserts that three groups of Soldiers must understand both task organization and command and support relationships. These Soldiers are commanders (brigade and battalion), operations officers (brigade and battalion S-3s), and logisticians (support operations officers [SPOs] and brigade S-4s).

Everyone has seen task organization charts posted in command posts—the units depicted in boxes with solid or dotted lines drawn to align units underneath a headquarters element. The task organization represents types of formations by

function on the battlefield. Typical U.S. brigades have two combined arms battalions, one cavalry squadron, an artillery battalion, a brigade engineer battalion, and a support battalion.

When supporting an armor regiment, one should understand how many tanks are in a tank company, how much fuel the tanks will consume, and how many personnel will require food, water, and a basic load of ammunition. By studying task organizations, commanders can identify what missions their units can conduct with the equipment and personnel available and also what can or cannot be logistically supported.

Logisticians must have mitigation strategies for what cannot be supported to overcome the shortfalls in logistics or must clearly articulate the shortfalls to their commanders, identifying where the unit can and will assume risk during operations.

Likewise, commanders and logisticians must understand the multinational partners operating inside a



*A Romanian officer briefs Col. John DiGiambattista, commander of the 1st Brigade Combat Team, 1st Cavalry Division, on battlefield components during an exercise at the Joint Multinational Readiness Center in Hohenfels, Germany, on Nov. 3, 2014. (Photo by Sgt. Ian Schell)*

brigade's task organization. Supporting multinational partners is not a new concept; we have seen this throughout U.S. history, through both world wars, the Korean War, the Vietnam War, and in Iraq and Afghanistan.

U.S. forces must not only embrace but also take ownership of the multinational units operating within their assigned task organizations. This obstacle is often remedied by assigning liaison officers with proper communications equipment in command posts.

To overcome persistent language problems, liaison officers should focus on relaying critical information about the formations. Some logistics examples include the following questions:

- ☐ How many personnel do they have?
- ☐ What equipment did they bring?
- ☐ What is their bulk fuel capacity?
- ☐ What types of fuel do they use?

- ☐ How will they make repairs and requests for parts?
- ☐ What ammunition do they require?
- ☐ What are the national caveats that outline what the nations will do and provide?
- ☐ With what resources will they sustain themselves?
- ☐ What are they legally allowed to provide?

Despite differences within each nation's military, the basic needs are the same. All classes of supply are necessary to sustain any force. U.S. logisticians cannot always provide sustainment for all in accordance with the national caveats, the ACSA, or the ESA, so the brigade's lead logistician (the SPO) must ask with what and how these multinational formations are going to support themselves.

Once logisticians understand the multinational task force's task organi-

zation, how multinational forces will sustain themselves, and what support U.S. forces can provide, they can begin to focus on the subsequent impacts on sustainment plans.

The focus can now shift to determining the capabilities of the formations, the support requirements, and the shortfalls in logistics that either higher-level U.S. logistics forces or partner nations will fill. With this understanding, logisticians can start analyzing the command and support relationships within multinational task forces.

### **Command and Support**

In addition to understanding the task organization, planners need to appreciate command and support relationships. At the most basic level, these relationships identify who is responsible for resupply and who supports whom within the task or-



ganization. With the national caveats and international agreements, we know what is authorized, but command and support relationships reveal exactly who is responsible.

Although a command relationship may change, it does not necessarily mean the support relationship will also change. A company may be attached to a different battalion for a specific mission, but the original support relationships remain unchanged. This will have an impact on resupply operations and the overall concept of support.

Another implication of command and support relationships that is often overlooked concerns the brigade support area (BSA). Many units, such as logistics support companies from both multinational and U.S. formations, can be located and operate inside the BSA. Higher echelons of logistics can be tenants inside the BSA. Elements of the brigade engineer battalion are also generally BSA tenants.

The BSA houses not just the brigade support battalion (BSB) but a conglomeration of formations that have converged in one location under the control of the BSB commander. This makes command and support relationships critical within the BSA.

The BSB cannot possibly defend the BSA by itself. Therefore, the BSB commander must develop a command relationship with the tenant units and have it approved by the brigade commander. The relationship inside the BSA is called tactical control.

Every tenant unit must be integrated into the base defense plan. Although employment location and terrain clearly dictate who provides support and security, available assets are also an important consideration. It is the logistician's responsibility to advise the commander on these issues, ensure there is a clear picture of all available logistics support assets across the brigade area of operations, and avoid placing all direct support responsibilities on the BSB.

Task-organizing multinational companies or platoons with other nations'

forces increases combat power and capability; however, it also creates shortfalls in logistics. In terms of national caveats, it is possible that a nation will not agree to feed and fuel attachments, generating a logistics shortfall.

For example, task-organizing a Danish tank company to a Romanian task force forces the brigade logistics officer to consider how this temporary task organization change will be sustained. With no task organization change, the Danish tank company receives its sustainment from the Danish logistics company and the Romanian task force receives its supplies from the Romanian logistics company.

With the task organization change, the Romanian logistics company cannot conduct sustainment operations for the Danish tank company. Because of incompatible equipment, the Romanian logistics company cannot cross-level repair parts or provide fuel for the Danish tank company. Therefore, the Danish logistics company must maintain its support relationship with the attached Danish tank company.

The problem remains when task-organizing U.S. Army companies into

other nations' task forces. For example, a U.S. tank company is attached to a Romanian task force. The Romanian forward support companies are not equipped to make repairs on U.S. equipment, and fuel compatibility is a challenge because U.S. forces use JP8 and NATO forces use diesel fuel. The Romanian task force also cannot feed the U.S. formation because of national caveats.

The solution may be to have the U.S. forward support company remain in direct support with the attached U.S. tank company or the BSB, sending supplies to the Romanian task force for the U.S. tank company.

Also, who is responsible for reporting logistics data for the attached U.S. formation? This requires synchronization and a common understanding of the support plan. Without understanding task organization changes and command support relationships, units will struggle to figure out who is supporting whom.

## Key Enabling Systems

The next step is for logisticians to help their brigades see themselves in terms of combat power. Logisticians must help their brigades to better visualize combat power by understand-



*A German soldier practices moving a litter onto a UH-1 Iroquois helicopter during multinational medic training at the Joint Multinational Readiness Center in Hohenfels, Germany, on March 23, 2015. (Photo by Sgt. Gemma Iglesias)*



*Dutch army Sgt. Bart Berkhout, a Leopard II armored recovery vehicle commander, hooks into his vehicle's internal communications network to assist his driver with backing up to connect with a Stryker. (Photo by Sgt. Jacob Sawyer)*

ing the key enabling systems available. Logisticians in U.S. formations must look at the unit's modified tables of organization and equipment, be cognizant of key battlefield equipment, and zero in on prescribed pacing items. They should look at the key enabling systems by warfighting function and assess readiness by using the methodology of "shoot, move, communicate, and sustain."

Why do we need to track equipment by warfighting function? Equipment is designed to fulfill a specific mission and purpose. For example, the M9 armored combat earthmover, high-mobility engineer excavator, and D7 bulldozer are critical enablers during defense preparation. If the unit does not track this equipment properly, then it may not be fully mission capable when needed.

Conversely, when the unit transitions to the offense, assault breacher vehicles may be the most needed

pieces of equipment. Understanding the mission, the equipment, and what the BCT wants to achieve is a balancing act.

By understanding the key enabling systems, the logistician can recommend a shift in maintenance priorities in order to support mission requirements. This applies equally to multinational formations.

What primarily concerns logisticians is the equipment used to distribute, refuel, store, lift, recover, and evacuate personnel and equipment. The multinational S-4 or logistics company commander must provide the SPOs with information about their logistics equipment. By understanding the key logistics enabling systems, one can glean information about bulk fuel capacity, evacuation assets, and recovery assets.

Logisticians must define assets relative to combat power and develop ways to display such information in

an easy-to-read format. The graphic representation of the combat power and sustainment capabilities of the formations is called the logistics common operational picture.

This picture is the start point, or what we call start exercise data, which allows the unit to see itself logistically before operations commence. Without start exercise baseline data, logisticians cannot provide viable or suitable concepts of support capable of sustaining maneuver task forces.

### **COAs and Concepts of Support**

Developing concepts of support requires logisticians (the BSB commander, brigade S-4, and the SPO) to understand the brigade's COA. COA development is a critical step, and logisticians must be represented throughout the process.

The logistician's job is to use the running estimates for key enabling systems and combat power to deter-



mine how to provide sustainment to the maneuver forces. The logistician assesses the logistics feasibility of each war-gamed COA, determines critical requirements for each logistics function, identifies potential problems and deficiencies, and decides if support can keep up with the tempo of the operation.

Logisticians must constantly assess the status of all logistics functions required to support the COA and compare it to available assets. To a logistician, the availability of the assets includes not only what equipment is on the battlefield but also what is not mission capable (NMC). The logistician must then let the BCT commander know whether or not NMC equipment will be available in time for mission execution.

Logisticians must identify potential shortfalls in logistics and develop mitigation strategies to eliminate or reduce the effects of these shortfalls. Accurately predicting requirements for each logistics function can ensure continuous sustainment.

Logisticians verify movement times and ensure assets are available to support each COA. What comes out of the COA approval is a warning order that provides the overarching brigade mission and subordinate battalion missions (the main effort and supporting efforts), the updated commander's intent, the concept of the operation (what unit is going where and what it will be doing), principal tasks assigned to subordinate units, updated time lines, and rehearsals.

Once logisticians understand the approved COAs, they can then write concepts of support. When logisticians take part in COA development, the concept of support outlines are scripted simultaneously in a parallel and integrated process, not after the brigade's planning efforts. Logisticians run into problems when they wait to produce the concepts of support until after the operation orders are produced.

The concepts of support detail how logisticians will sustain units throughout each phase of operations. Ro-

tations at JMRC generally occur in three phases: movement to contact, defend, and attack. Three operational phases require three separate and distinct concepts of support.

A change in phase is a change in task; a change in task is a change in the concept of operation. If the concept of the operation changes, so does the concept of support. Once the concept of support is scripted, the logistics plan becomes an executable operation.

## Support Rehearsals

The logistics leaders within the brigade must ensure that other leaders understand the concept of the operation, the concept of support, and the synchronization of movement, maintenance, medical evacuation, and resupply. The brigade's logisticians do this by conducting support rehearsals.

The rehearsal illustrates the commander's intent and creates the conditions for common understanding of the concept of the operation. Commanders use rehearsals to identify additional friction points and increased risks and to develop mitigation techniques for both.

Logisticians conduct sustainment rehearsals to confirm that subordinate logistics units understand when, where, and how sustainment is going to occur through all phases of operations over time and space. The rehearsal allows leaders to specify what the brigade is going to do and how the logisticians will sustain the fight.

A rehearsal script is key to understanding the operation. A script is the start point that focuses the rehearsal, organizes it, and keeps it on track. The support rehearsal script sets the conditions for synchronization throughout each phase of the operation, ensuring all participants know their roles and what they will be expected to brief. Without a script to focus the rehearsal, the lack of synchronization results in a lack of common understanding of time, space, adjacent units, and subordinate logistics formations.

Scripting has some challenges. For example, reading the script verbatim may cause inflexibility during re-

hearsal execution. It is important that subordinate units are aware of their opportunities to relay pertinent information and coordinate all issues.

In multinational formations, if the partners, because of language barriers, do not understand what they are reading or are confused by what is said, it might create a logistics shortfall during execution. If the script has not allowed room for deviation or no one has taken the time to ensure all U.S. jargon has been clearly translated, both the U.S. Soldiers and multinational partners will be set up for failure. The script should generate an opportunity for the use of creativity, critical thinking, and initiative.

Multinational allies and partners come to JMRC to train alongside U.S. formations, offering opportunities to train together and to grow stronger and better. These opportunities include improving logistics operations and interoperability.

In order to accomplish this effectively, logisticians must understand the complexities of working in multinational formations and the unique challenges logisticians face in the form of national caveats and orders, complex task organizations, unorthodox command and support relationships, unanticipated key enabling systems, and the inclusion of all multinational partners in developing concepts of support and sustainment rehearsals.

Logisticians cannot be the weak link in a multinational operation. All who come to JMRC arrive prepared to train with open minds and ready to learn. JMRC fulfills its obligation to make every unit better.

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## FEATURES

When developing a multinational logistics common operational picture in a decisive action training environment, logisticians must consider four essential elements.

In the foreword of Training and Doctrine Command Pamphlet 525-3-1, The U.S. Army Operating Concept: Win in a Complex World, Gen. Raymond T. Odierno wrote, “The Army Operating Concept (AOC) describes how future Army forces will prevent conflict, shape security environments, and win wars while operating as part of our Joint Force and working with multiple partners.”

Today more than ever, as the Army transitions from forward operating base-centric logistics to Force 2025 and beyond, we must ensure that we continue to improve relationships and strive to become more interoperable with our multinational partners.

When determining the key considerations in developing a multinational logistics common operational picture (LCOP), senior logisticians must first understand the common operational picture across the area of operations and effectively synchronize logistics support. This article discusses the four essential elements that should be considered when developing a multinational LCOP:

- ❑ Enhancing interoperability among multinational forces.
- ❑ Understanding national caveats and doctrine of individual multinational partners.
- ❑ Analyzing task organizations.
- ❑ Standardizing reporting.

### Interoperability

At the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany, observer-coach/trainers (OC/Ts) often hear and preach the word “interoperability.” Joint Publication 6-0, Joint Communications System, defines interoperability as “the condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users.”

The NATO definition of interoperability dives much deeper than just having interoperable communications

*Capt. Stephen Schaefer discusses operations by phone during a training rotation at the Joint Multinational Readiness Center in Hohenfels, Germany, on June 24, 2015. (Photo by Sgt. 1st Class Craig Norton)*



# Developing a Multinational Logistics Common Operational Picture

■ By Capt. Joseph T. Boos

ICOP

platforms among multinational partners. Allied Administrative Publication-6, NATO Glossary of Terms and Definitions, defines interoperability as “the ability of Alliance forces and, when appropriate, forces of Partner and other nations to train, exercise and operate effectively together in the execution of assigned missions and tasks.”

Leaders who prepare for a combined multinational rotation at JMRC tend to focus on the Joint Publication 6-0 definition of interoperability. This leads to many challenges, especially when it comes to incorporating multinational partners into the logistics support plan. NATO’s definition clearly involves more than communications. It reduces duplication in an alliance of 28 members, allows pooling of resources, and even produces synergy among the members.

As the Army transitions to Force

2025 and beyond, OC/Ts must continue to preach the word “interoperability” and logisticians must embrace NATO’s definition of the term. This will benefit the logistics community in the development of procedures and systems for U.S. forces and their multinational partners.

Developing systems and procedures that are interoperable among multinational partners will allow logisticians to plan for and have the required capabilities to provide the logistics support needed to sustain multinational task forces across the battlefield.

### National Caveats and Doctrine

While participating in a rotation at JMRC, each multinational partner has restrictions called “national caveats.” These caveats specify what each of the participating multinational partner’s Soldiers can or cannot do and what ca-

capacity of support they can provide or receive during a rotation.

Figure 1 is an example of how complex national caveats and support agreements can be during a rotation at JMRC. Logisticians must truly understand multinational caveats and think through what resources each multinational partner requires or brings to a rotation to sustain the fight.

At the tactical level, there is little approved NATO doctrine on how multinational operations should be conducted. Each multinational partner that participates in a rotation operates under its own military doctrine.

It is imperative that logisticians identify doctrinal differences up front and bridge gaps when developing the logistics support plan, even prior to conducting the military decision-making process. Classes of supply best exemplify doctrinal differences com-

Multinational Caveats and Support Agreements									
Unit	Task Organization	PAX	Class I	Class III	Class IV	Class V	Class VII	Class IX	Recovery
U.S. Platoon	1st Squadron	36	Contract	JP8	Self	Self	MRX	MRX	MRX
Belgian Company	4th Squadron	91	Contract	DF2	Self	Self	Self	Self	Self
Bosnian Platoon	1st Squadron	35	Contract	JP8	Self	Self	MRX	MRX	MRX
Bulgarian MPs & Engineers	Engineer Squadron	42	Contract	JP8	Self	Self	MRX	MRX	MRX
Hungarian Platoon	1st Squadron	131	Contract	DF2	Self	Self	Self	Self	Self
Latvian Platoon	4th Squadron	45	Contract	DF2	Self	Self	Self	Self	Self
Luxembourgish Platoon	4th Squadron	30	Contract	DF2	Self	Self	Self	Self	Belgium
Macedonian Platoon	1st Squadron	30	Contract	JP8	Self	Self	MRX	MRX	MRX
Moldovan Platoon	1st Squadron	10	Contract	JP8	Self	Self	MRX	MRX	MRX

**Legend**

Class I = Subsistence

Class III = Petroleum, oils, and lubricants

Class IV = Construction and barrier materials

Class V = Ammunition

Class VII = Major end items

Class IX = Repair parts

DF2 = Diesel fuel 2

JP8 = Jet propellant 8

MPs = Military police

MRX = Mission rehearsal exercise

PAX = Personnel

Figure 1. This chart provides an example of how forces may be sustained during a multinational training rotation. For example, the Hungarian platoon will provide its own class VII, but the Bosnian platoon will draw its class VII from the MRX yard.



monly seen at JMRC.

Once the senior sustainers understand the capabilities and limitations presented by national caveats and doctrine, they can shift their focus to task organization and determine where sustainment shortfalls may occur.

## Task Organization

During a rotation at JMRC, task organization can be very complex and can include more than 20 different NATO and Partners for Peace countries working together under a single task organization. Sixteen of the 19 different NATO and Partners for Peace countries participating during the rotation are task-organized under a single higher command.

When it comes to developing an LCOP at JMRC, the most crucial piece of the logistics puzzle is analyzing the complexity of the task organization. The task organization sets conditions and is the starting block for logisticians. Once logisticians understand the supported multinational task force caveats, requirements, capabilities, and operational missions by phase of each operation, they can start to project requirements for future operations and continue to develop the concepts of support for specific task forces.

After establishing the capabilities and requirements needed to sustain each task force under the task organization, logisticians can begin to transition into developing the reports needed to capture the information required on a daily basis.

## Standardized Reporting

One of the biggest challenges that logisticians face at JMRC is capturing the pertinent data points for the logistics status reports (LOGSTATs), especially for multinational data. Several areas contribute to the difficulty of trying to capture this data.

Emphasis should be placed on getting to know the different types of requirements for the multinational partners' equipment. For example, most logisticians know the fuel requirements needed for U.S. equipment. The three basic fuel types commonly used in-

clude JP8, motor gasoline, and aviation gasoline.

Fuel requirements are very different when dealing with multinational partners, especially during a large exercise like Saber Junction or Combined Resolve. Several types of multinational partner equipment require either diesel fuel 2 or diesel fuel 54. These are not commonly used for U.S. equipment and are not typically captured on LOGSTATs. When developing daily LOGSTATs, logisticians must learn and incorporate the requirements for all classes of supply for multinational partners.

Another issue that arises during the reporting process has to do with the information from the combat power slants, which are reports on which key combat enablers are fully mission capable and which are not mission capable by task force.

When incorporating data from the combat power slants into the LCOP, logisticians need to determine U.S. equivalents of multinational equipment so that they can prioritize the information that is reported. This equivalency assessment helps portray a picture of effectiveness for combat enablers and helps the brigade commander make maneuver and fire support decisions across the battlefield.

The final issue with the reporting process concerns how the reports are going to be sent to and received by higher headquarters. Multinational task forces experience many challenges with the interoperability of communications platforms. These problems are made more complex through language differences and communication protocols.

Logisticians must recognize such communication gaps early on to better determine how to collect LOGSTATs and conduct logistics synchronization meetings during a training rotation. An effective technique used at JMRC to overcome these challenges is assigning liaison officers with clearly defined sets of tasks, purposes, and authorities throughout the supported and supporting units.

During Combined Resolve III, the sustainment OC/T team took into

account these four essential elements and created an LCOP in order to track the "ground truth" (the veracity) of the rotational training units' (RTUs') LOGSTATs. The primary intent was to track maintenance supplies, class I (subsistence), and class IIIb (bulk petroleum, oils, and lubricants).

Logistics OC/Ts assigned to each task force reported LOGSTAT numbers daily to compare ground truth data with the RTUs' reported data. This enabled the OC/Ts to identify shortfalls in the RTUs' support plans and their ability to paint accurate pictures for the brigade commander. Simultaneously, the OC/Ts coached their counterparts to develop more accurate and efficient LCOPs.

It is critical for logisticians to identify and plan for the interoperability gaps in multinational task forces. By doing so early in the planning process, task forces are better able to exercise established plans and allow for changes if needed. The plans help create accurate LCOPs and become the driving forces behind successful concepts of support.

Developing accurate and reliable LCOPs is only possible when these four essential elements are understood, are planned for, and incorporate interoperable systems developed to capture the information required to sustain multinational task forces.

It is apparent that the transition to Force 2025 and beyond will include our multinational partners. That is why it is critical to continue increasing interoperability among multinational forces, understanding each partner's national caveats and doctrine, understanding multinational task force capabilities and requirements, and refining the reporting processes through training.

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# The Army Logistics University Leverages Expertise Through Cross-Cohort Training

■ By Maj. Brian J. Slotnick and Capt. Nina R. Copeland





*Basic Officer Leader Course students conduct an operation order brief for a training mission in order to synchronize all convoy leaders on the plan before mission execution. (Photo by Adam Gramarossa)*

# BOILC



## FEATURES

The Army Logistics University provides Basic Officer Leader Course students with the opportunity to work directly with noncommissioned officers and warrant officers as part of their training.

The Army Logistics University's Basic Officer Leader Department (BOLD) is constantly seeking ways to improve the outcome-based learning of its junior leaders. The department seeks and receives feedback from students, instructors, field commanders, and combat training centers to improve its courses.

In 2014, the Training and Doctrine Command surveyed more than 2,100 lieutenants at their first assignments and 13,000 officers and noncommissioned officers (NCOs) to solicit feedback about the content, adequacy, and relevance of Army institutional training in the Basic Officer Leader Course (BOLC).

The survey covered the five domains of officership and professional development, values and ethics, leadership, tactical and technical skills, and warrior tasks and battle drills. Lieutenants in their first assignments after completing BOLC were asked to indicate the extent to which they were prepared to execute their duties within those domains. Leaders were asked to evaluate the lieutenants' performance and prioritize the importance of the five domains.

The Training and Doctrine Command's Research and Analysis Directorate analyzed the survey and determined that counseling subordinates was the number one training deficiency out of 55 training areas. Furthermore, new lieutenants were deemed as generally lacking in confidence in understanding and relating to NCOs.

### Addressing Deficiencies

As a result of this survey and analysis, ALU's BOLD has implemented new initiatives to ensure junior leaders are prepared to operate and win in a complex world. The BOLCs offered at Fort Lee, Virginia, provide 15 to 17 weeks of training for Quartermaster, Ordnance, and Transportation lieutenants. This training is the final phase of initial military training for second lieutenants before they report to their first assignments.

To better prepare the lieutenants

for these assignments, BOLD has capitalized on the expertise of NCO instructors from the Logistics NCO Academy and warrant officer instructors from the Technical Logistics College at ALU by integrating them into the BOLC learning plan. The lesson plans and practical exercises implemented in the BOLC classes provide a better understanding of the importance and impact of quality counseling.

### NCO Counseling Forums

NCO-led counseling training forums are conducted twice a month. During each 90-minute session, students conduct three iterations: initial counseling, quarterly counseling, and on-the-spot counseling on a Department of the Army Form 2166-8-1, NCOER Counseling and Support Form. Previously, students received information on counseling subordinates and completing the proper forms, but no practical exercises were conducted.

Integrating NCO counseling into the BOLCs has decreased students' anxieties and increased their confidence in their ability to counsel NCOs. The forum affords both the student and the NCO the opportunity to execute a realistic counseling session, significantly reducing the initial apprehension junior officers often experience when counseling an NCO for the first time.

BOLC students enjoy the practical exercises and absorb the mentoring provided by the NCOs. Although the teacher advisor counselors primarily implement and provide instruction for the counseling, the students appreciate the open dialogue with the NCOs.

The students also gain valuable insights from the good and bad counseling experiences shared by NCOs. The counseling forum undoubtedly exposes students to best practices that will increase their overall competency and confidence.

### Integrating Warrant Officers

Warrant officers also play a key role





*Second Lt. Isaac Brunson practices conducting noncommissioned officer counseling with Staff Sgt. Devon Perry, a student attending the Logistics Noncommissioned Officer Academy at the Army Logistics University. (Photo by Adam Gramarossa)*

in the development of the lieutenants during BOLC. As technical experts, the warrant officers can provide direct feedback to the lieutenants during their core training modules. The warrant officers also discuss their roles and responsibilities and the relationships between the platoon leaders and chief warrant officers within a battalion or brigade.

An excellent example of warrant officer integration in BOLC is the Ordnance Munitions Management Module. Munitions management is one of two core competencies for area of concentration 91A (materiel maintenance and munitions management officer).

For each Ordnance BOLC class, several military occupational specialty 890A (ammunition warrant officer) Soldiers from the Technical Logistics College conduct a leader professional development (LPD)

session on the relationship between warrant officers and platoon leaders. The LPD typically takes the form of a discussion in which the lieutenants can ask questions.

During the LPD, lieutenants whose first assignment will be in a unit in which the warrant officer has served begin to ask more specific and insightful questions. These questions may be about characteristics of the installation and the chain of command, expectations of an incoming officer, near- and long-term training objectives, and the sponsorship program prior to arrival.

Following the LPD, the warrant officers receive the Ordnance BOLC students' final briefing on the practical exercise. Ordnance BOLC students plan and develop ammunition storage points on a sand table. Warrant officers in the munitions management field then provide experience-based

feedback on the students' ammunition storage points.

### **Warrant Officer Mentors**

In addition to the lieutenants achieving their learning goals while attending BOLC, warrant officers also use this mentoring experience to achieve one of their key learning objectives. Warrant officers are responsible for educating their lieutenants as they enter the field. The integration of the warrant officers into BOLC provides the opportunity for junior warrant officers to sharpen their leadership skills.

One of the key points that BOLD wants to convey to lieutenants is that warrant officers are not in competition with them. Instead, they are there to mentor and work with them as team members. The success of the platoon leader is often a reflection of the competency of the warrant officer. Thus, the warrant officers work



*A noncommissioned officer instructor trains a Basic Officer Leader Course student in properly attaching a sling load to a UH-60 Black Hawk helicopter. This training teaches students the capabilities of aerial resupply and how it can be used across kinetic operations. (Photo by Adam Gramarossa)*

to ensure their success. Furthermore, warrant officers want the new lieutenants to understand how they can serve as a conduit to assist in critical team building between platoon leaders and their trusted battle buddies, the platoon sergeants.

Providing lieutenants with the opportunity to develop a rapport with warrant officers will hopefully develop the competence, confidence, and conviction of these new officers.

Based on initial student feedback from course pilots, the integration of NCOs and warrant officers into the junior officer education program is a welcome addition. End-of-course

critiques confirm that junior officers appreciate and benefit from practical, hands-on opportunities and immediate feedback. One-on-one interaction has no substitute, especially when developing leadership skills.

The Quartermaster, Ordnance, and Transportation basic courses are currently exploring ways to further integrate NCOs and warrant officers into the curriculum to improve learning.

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# Submissions

## Commentary

**Commentary** articles contain opinions and informed criticisms. Commentaries are intended to promote independent thoughts and new ideas. Commentary articles typically are 800 to 1,600 words.

## Spectrum

**Spectrum** is a department of *Army Sustainment* intended to present well-researched, referenced articles typical of a scholarly journal. Spectrum articles most often contain footnotes that include bibliographical information or tangential thoughts.

In cooperation with the Army Logistics University, *Army Sustainment* has implemented a double-blind peer review for all articles appearing in its Spectrum section. Peer review is an objective process at the heart of good scholarly publishing and is carried out by most reputable academic journals. Spectrum articles typically are 2,500 to 5,000 words.

## Features

**Features** includes articles that offer broader perspectives on topics that affect a large portion of our readers. These can focus on current hot topics, or the future of the force. These articles can be referenced, but it is not required if the content is within the purview of the author. While these articles can be analytic in nature and can draw conclusions, they should not be opinion pieces. Features typically are 1,600 to 5,000 words.

## Operations

**Operations** includes articles that describe units' recent deployments or operations. These articles should include lessons learned and offer suggestions for other units that will be taking on similar missions. These articles require an official clearance for open publication from the author's unit. Photo submissions are highly encouraged in this section. Please try to include five to 10 high-resolution photos of varying subject matter. Operations articles typically are 1,200 to 2,400 words.

## Training & Education

**Training & Education** is dedicated to sharing new ideas and lessons learned about how Army sustainers are being taught, both on the field and in the classroom. Training & Education articles typically are 600 to 1,100 words.

## Tools

**Tools** articles contain information that other units can apply directly or modify to use in their current operations. These articles typically contain charts and graphs and include detailed information regarding unit formations, systems applications, and current regulations. Tools articles typically are 600 to 1,800 words.

## History

**History** includes articles that discuss sustainment aspects of past wars, battles, and operations. History articles should include graphics such as maps, charts, old photographs, etc., that support the content of the article. History articles typically are 1,200 to 3,000 words.

# Writing for *Army Sustainment*

**W**e are always looking for quality articles to share with the Army sustainment community. If you are interested in submitting an article to *Army Sustainment*, please follow these guidelines:

- ☐ Ensure your article is appropriate to the magazine's subjects, which include Army logistics, human resources, and financial management.
- ☐ Ensure that the article's information is technically accurate.
- ☐ Do not assume that those reading your article are Soldiers or that they have background knowledge of your subject; *Army Sustainment's* readership is broad.
- ☐ Write your article specifically for *Army Sustainment*. If you have

submitted your article to other publications, please let us know at the time of submission.

- ☐ Keep your writing simple and straightforward.
- ☐ Attribute all quotes to their correct sources.
- ☐ Identify all acronyms, technical terms, and publications.
- ☐ Review a past issue of the magazine; it will be your best guide as you develop your article.

## Submitting an Article

Submit your article by email to [usarmy.lee.tradoc.mbx.leeecasm@mail.mil](mailto:usarmy.lee.tradoc.mbx.leeecasm@mail.mil).

Submit the article as a simple Microsoft Word document—not in layout format. We will determine the layout for publication.

Send photos as .jpg or .tif files at the highest resolution possible. Photos embedded in Word or PowerPoint cannot be used.

Include a description of each photo in your Word document.

Send photos and charts as separate documents.

For articles intended for the Operations department, obtain an official clearance for public release, unlimited distribution, from your public affairs and operational security offices before submitting your article. We will send you the forms necessary for these clearances.

If you have questions about these requirements, please contact us at [usarmy.lee.tradoc.mbx.leeecasm@mail.mil](mailto:usarmy.lee.tradoc.mbx.leeecasm@mail.mil) or (804) 765-4761 or DSN 539-4761.

# Estimating Force Structure Manpower and MHE Capabilities

■ By Mustafa Rawat and Michael Pipkin

The Army Armaments Research, Development and Engineering Center's Logistics Research and Engineering Directorate (LRED) at Picatinny Arsenal, New Jersey, builds discrete event simulation (DES) process models to answer questions related to manpower and materials-handling equipment (MHE) capabilities. For more than 10 years, LRED has developed models for organizations such as the Combined Arms Support Command (CASCOM), the Army Sustainment Command, and the Army Field Support Battalion-Kuwait.

Decision-makers have successfully gained a thorough understanding of system bottlenecks for baseline operations by using the approach of developing a model based on subject matter expert (SME)-defined workflows, including process times and resource inputs, and then validating it against known use cases. This method offers the flexibility to analyze the effect on doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy caused by changes in the baseline process and to recommend improvements to the overall distribution system.

## Developing Models

LRED developed models for CASCOM's Force Development Directorate to estimate the manpower and MHE capabilities at a corps storage area, an ammunition transfer and holding point, and a supply support activity. It developed similar models for the Army Sustainment Command in order to recommend the adequate level of manpower needed to support installation sup-

ply support activity operations in the continental United States. The outcome of this analysis was critical in helping the command assess and balance contractual manpower needs across seven pilot sites.

For the Army Field Support Battalion-Kuwait, LRED developed a model for the battalion to document and formalize the business processes associated with an armored brigade combat team deployment and to estimate the capacity of the government and contractor workforce.

The model also helped establish a baseline process, identify resource bottlenecks, and enable continuous process improvement. LRED also made recommendations to the battalion commander on how to optimally allocate personnel and equipment.

## Transaction-Based Models

The models that LRED developed were transaction-based models. The workload forcing function that drives these models is transactional data obtained from an enterprise business system like the Standard Army Ammunition System-Modernization or the Standard Army Retail Supply System. Figure 1 lays out the approach used to build these process models. The process steps are not complex and can be replicated easily for most DES models.

One of the biggest challenges with this approach is the significant amount of time spent by the modeler to understand the business process being modeled. LRED has developed a customized Microsoft Visio stencil called VisioSim that allows modelers to capture SME knowledge of the business process and build workflows using DES

modeling process blocks. The stencil used by LRED is designed to correspond to the Arena DES modeling environment.

VisioSim significantly saves time for both the SME and the modeler. Once the process workflows have been developed, the modeler, with help from SMEs, populates individual process steps with the time and resources (personnel and equipment) required to complete that process step. If available, empirical data is used for the process times. If unavailable, SME input based on a probability distribution is used.

## User Test Cases

In order to validate the model, user test cases are jointly developed by the stakeholder SMEs and a modeler. Once the process workflow and test cases are finalized, the modeler preprocesses the input data that will be used as the forcing function for this transaction-based model.

This step usually takes a significant amount of time because the modeler also addresses issues related to missing data and data quality. In this stage of the process, the SMEs and the modeler may also have to make some assumptions if the input data cannot support the business rules developed during the process workflow mapping stage.

Once preprocessing the input data is complete, the modeler builds the model in the preferred DES modeling environment. Any errors found are debugged and eliminated. This baseline model is then validated against previously defined test cases.

Multiple simulations of the model are usually carried out, followed



by postprocessing the output data by tabulating or plotting it. The output data is then analyzed to identify process inefficiencies, system bottlenecks, and throughput.

After inefficiencies have been identified, the modeler and SMEs conduct a what-if analysis. During this stage, the modeler can modify the process, provide additional resources, or introduce equipment with new capabilities.

All of these possibilities are then simulated and the output is reanalyzed against the baseline process to quantify the potential efficiencies that could be realized by implementing one or more of the suggested improvements identified during the what-if analysis. As suggested improvements are implemented by the stakeholder over time, a new baseline is established and the analysis process is repeated.

## Using Transactional Data

Transactional data from the Standard Army Ammunition System-Modernization and the Standard Army Retail Supply System has been used extensively to build transaction-based models. This approach has successfully captured personnel and equipment utilization at nodal levels, such as ammunition supply points and supply support activities.

Data stored in these systems is assigned a specific transaction code. This code represents the arrival of inbound commodities that need to be stored or the outbound movement of stored commodities to customers or other nodes in the supply chain. In the model, these transactions are modeled as entities.

Each entity can have a number of user-defined attributes, such as the transaction code, a transaction date and time stamp, a unique commodity identifier, and physical characteristics such as weight and dimensions.

When a transaction entity is introduced into the model, the model logic routes the entity through the appropriate workflow based on its transaction code. As it traverses the workflow, this entity is delayed

by processes, seizes and releases resources, waits in queues, and affects (or is affected by) the value of global variables defined in other parts of the model logic. Throughout its life cycle, internal statistics are collected at the entity level and then aggregated to generate system-level metrics.

Common metrics, such as resource utilizations, the number of entities waiting, wait times in queues, and other user-defined statistics, are recorded by the modeling environment. These transaction-based models, while being fairly detailed and accurate, are also very tedious to develop. They require a significant amount of time for data preprocessing, but most importantly, they are highly dependent on the availability and accuracy of the data. The question is, how do we build nontransaction-based models to estimate manpower and equipment allocations for force structure right-sizing experiments?

## Proposed Solution

To simplify the process of building DES models when transactional data is unavailable, LRED designed a model with two approaches to addressing the resource capacity. This could be carried out by assigning an almost infinite resource capacity or by not defining any resources at all. This solution proposes building an unconstrained resource capacity model that does not define any resources.

A nontransactional workload based on a probability distribution could represent transportation platforms or pallets (entities) that are continuously presented to the model. The model then processes this workload based on the business rules defined in the underlying workflows and keeps track of the total labor and MHE hours required. However, since the model does not have any resources, and therefore no queues, inefficiencies like system bottlenecks cannot be identified.

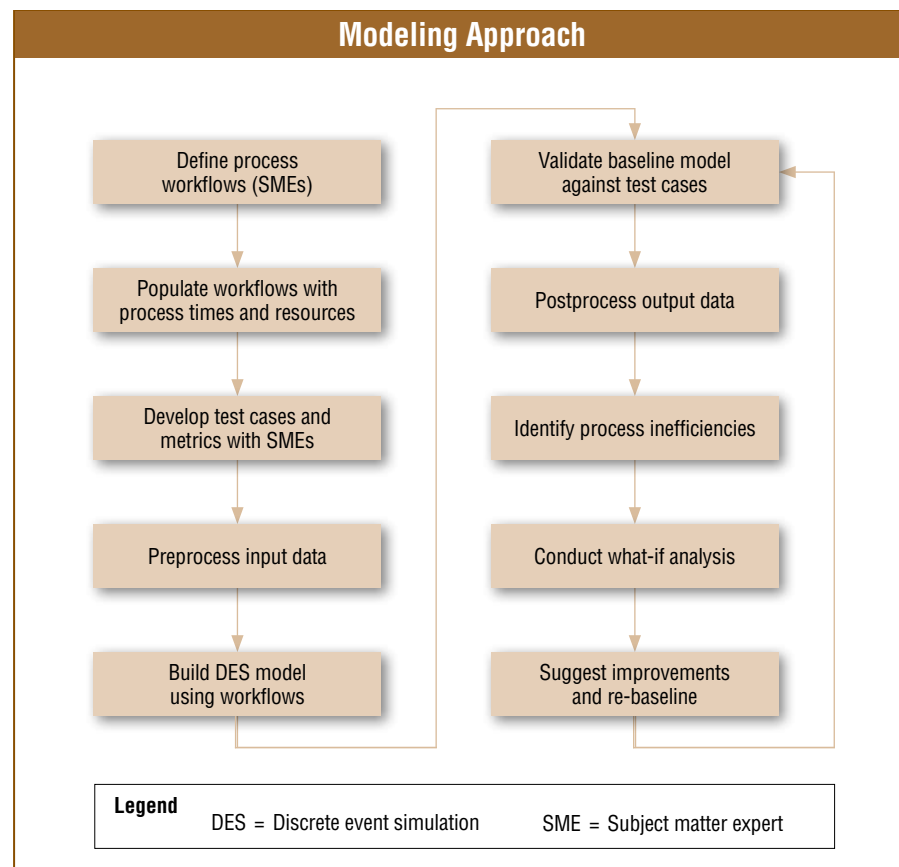


Figure 1. This chart shows the approach to building process models using simple steps that can be easily replicated for most DES models.

Although transaction-based models are extremely useful in identifying system-level inefficiencies or the resource augmentation needed for a dynamic workload (periods of surge and lull in demand), nontransaction-based models can be used to estimate labor and MHE hours-per-ton processing rates for relatively steady state workloads.

## Simulation

This approach replicates most of the process steps shown in figure 1. However, it significantly reduces the time spent on preprocessing transactional input data.

To explain this concept further, let us attempt to estimate the optimal manpower and MHE allocation to handle the workload at a generic ammunition support activity (ASA). This ASA supports the four major ammunition supply processes: receive and store, issue, ship, and turn-in. LRED builds a DES model using the VisioSim workflows developed

from an earlier study for an ammunition transfer and holding point located in Afghanistan.

Once a working baseline model has been developed, entities are created (in this case, pallets) and presented to the ASA model. The model processes these entities based on their type (receipt, issue, shipping, and turn-in). If available, the modeler can leverage data from earlier studies or rely on SME input to make decisions on the proportion of inbound and outbound pallets that follow ground (versus air) modes of distribution.

The modeler or the SME also estimates the distribution of full depot pallets (versus mixed or partial pallets) that have to be banded. This is especially critical in the issue process. This model is then simulated for a period of one year over multiple replications.

Throughout the simulation run, the modeler collects a number of metrics that are then averaged over multiple replications. For this study, the most relevant metrics are the labor

hours and MHE hours required to process one ton of supplies for receipt, issue, shipment, or turn-in.

Since no resources are defined in the model, the assumption is that personnel and MHE are always available when needed and are therefore 100 percent used performing some task. This assumption is not realistic because of the inherent downtimes in the process, causing the recorded capability to be higher. However, for the purposes of this discussion, we can address this issue by adding a utilization factor to the model output.

Figure 2 shows notional labor and MHE rates for processing a ton of ammunition along with the distribution of tonnage by workflow processed at the ASA. In this case, receipt accounts for 40 percent of the total tonnage handled by the ASA.

Next we normalize these rates, so even though receipt is 40 percent of the tonnage processed by the ASA, we do not allocate 40 percent of the labor and MHE hours to that process. This is because some processes, such as issue and turn-in, are more labor intensive and require proportionally more hours. Similarly, figure 3 shows the normalized percentages for labor and MHE hours.

If we assume the availability of 30 personnel and five MHE, the example in figure 3 shows the allocation of these resources based on the normalized percentages calculated in figure 3. From figure 4, you can see that even though the issue process is 30 percent of the daily tonnage it should get 48 percent and 57 percent of the available personnel and MHE respectively.

## Extending the Results

Based on the explanation provided above, you can see that these runs can be easily extrapolated to cover different “blends” of receipt, issue, shipment, and turn-in processes. Furthermore, we can also develop linear plots for these blends based on a ratio of personnel to MHE. In other words, using the 30 personnel and five MHE example, we can say that we

Process	Labor Hours/Ton	MHE Hours/Ton	Percent of Tonnage
Receipt	2	0.5	40
Issue	5	2	30
Shipping	2	0.75	20
Turn-In	4	1	10

Figure 2. This chart shows notional labor and materials-handling equipment (MHE) rates for the distribution of ammunition.

Process	Percent of Tonnage	Normalized Percent Tonnage (Labor)	Normalized Percentage (materials handling equipment)
Receipt	40	26 <sup>2</sup>	19
Issue	30	48	57
Shipping	20	13	14
Turn-in	10	13	10

$$\frac{40\% \times 2}{(40\% \times 2 + 30\% \times 5 + 20\% \times 2 + 10\% \times 4)} = 0.26$$

Figure 3. This chart shows a representation of normalized percentages for labor and materials-handling equipment. The equation shows how the normalized percentage for labor was calculated. The percent comes from the percent of tonnage on this chart and the number it is multiplied by comes from the labor hours per ton in figure 2.



Process	Percent of Tonnage	Percent Personnel Allocation (Normalized)	Personnel Allocation	Percent MHE Allocation (Normalized)	MHE Allocation
Receipt	40	26	7.74	19	0.95
Issue	30	48	14.52	57	2.86
Shipping	20	13	3.87	14	0.71
Turn-in	10	13	3.87	10	0.48

Figure 4. This chart compares the percentage of personnel and materials-handling equipment allocated based on process output, which is represented as percent of tonnage.

have a 6-to-1 ratio for personnel to MHE. So, for every additional MHE that is added to the force structure, six personnel should be added.

Figure 5 shows a notional family of plots that are generated by extrapolating the data. From this graph we can determine the capability of an ammunition unit based on a certain blend of receipt, issue, shipping, and turn-in processes. Blend 1 has a 6-to-1 ratio for personnel to MHE compared to blend 3, which has a 4-to-1 ratio.

In order to achieve a 100-ton-per-day capability at an ASA whose

distribution of tonnage by process closely resembles blend 1, we would require 20 personnel and three or four pieces of MHE. To achieve the same level of daily tonnage processing capability for blend 2, we would require 30 personnel and the number of MHE would be somewhere between four and five.

An association between a blend and phase of operation can easily be made. By following this approach we can adjust the capability for any unit based on the business processes and the class of supply it supports (de-

rived through the workflows) and the phase of the operation, such as offensive, defensive, and stability, in which it is currently deployed.

The method presented here represents an entirely new approach to both developing base tables of organization and equipment and estimating the required manpower and MHE necessary to provide logistics support during each of the operational phases of combat.

Rather than depend on an outdated tons-based approach to build Army force structure and estimating the number and composition of logistics units required to provide sufficient distribution support, force developers and theater planners can use approved tables similar to the ones shown in this article to ensure both tables of organization and equipment and deployed sustainment units are adequate to support our combat forces.

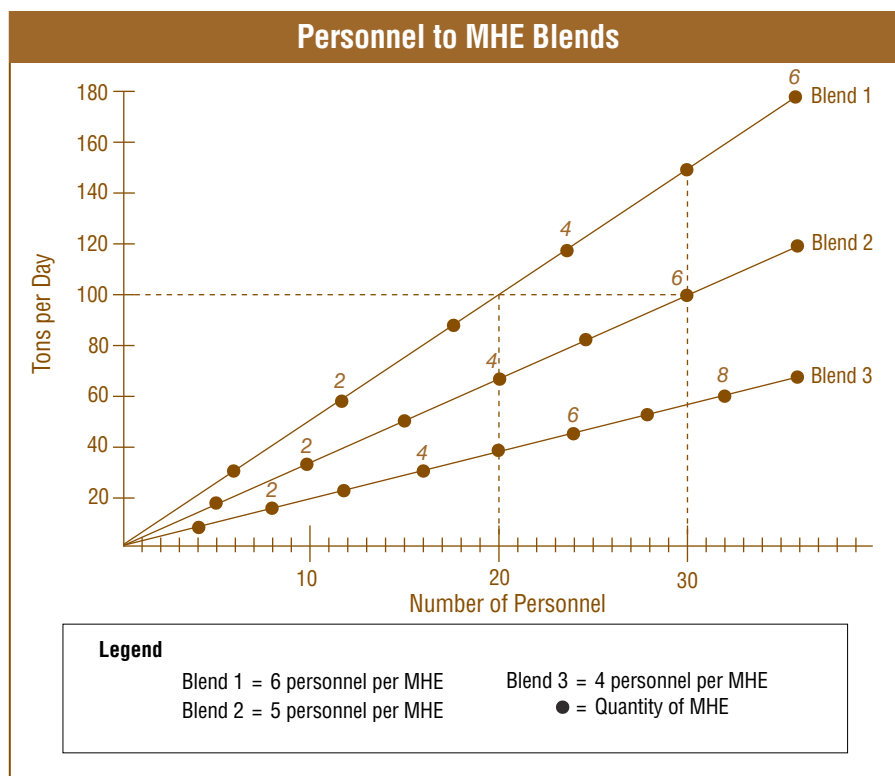


Figure 5. This chart shows how the receipt, issue, shipping, and turn-in processes affect output based on the number of personnel available per piece of materials-handling equipment (MHE).

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The authors would like to acknowledge the following subject matter experts for their contribution of valuable insight and knowledge in developing the process workflows and business rules that aided in the development of the above models: Chief Warrant Officer 2 Michael Daigle, Terry Harr, Louis Britos, Chief Warrant Officer 5 Wilbert Clyburn, Capt. Timothy Casten, Capt. Tyler Weightman, and Chief Warrant Officer 5 William Lewis.



*Capt. Alexander Ossa tells his team how he wants his command post set up at the Joint Readiness Training Center at Fort Polk, Louisiana. (Photo by Capt. Daniel W. Ludwig)*

## Four Keys to Forward Support Company Success at JRTC

Forward support companies should consider these training and procedure recommendations to prepare for a Joint Readiness Training Center rotation.

■ By Capt. Daniel W. Ludwig

Observer-coach/trainers at the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, noted over a two-year period some common trends within brigade support battalions (BSBs). From these observations, they identified four tips that will help forward support companies (FSCs) succeed during their JRTC rotations and

improve their overall readiness. These tips are low impact but yield tremendous results at JRTC and on the battlefield.

### 1. Update and Distribute an SOP

Come to the JRTC with a current standard operating procedure (SOP). All the subsequent keys to success start with a current pub-

lished and distributed SOP.

Most units come to the JRTC without a published SOP to follow. If a unit is fortunate enough to have one, the SOP is usually out of date. In addition, an FSC that does have an SOP usually has only one copy. That single copy may be sitting on a desk collecting dust in the commander's office at home station. Often, the in-



dividual Soldiers in the unit either do not know it exists or have never seen it, much less read it.

**Review the battalion tactical SOP.** Appoint a junior officer and non-commissioned officer to update, publish, and distribute a company SOP using the battalion tactical SOP as a guide. This will give you a standard to adhere to and build on as you develop junior leaders. The time spent will pay high dividends when you deploy to the JRTC because it will improve the unit's overall readiness.

**Ask for a sample SOP.** At the JRTC, the operations group has a wealth of proven products that have been amassed over time. You should use your battalion products first, but if you are still struggling to find a good place to start, contact the operations group. The observer-coach/trainers at Fort Polk are more than willing to help you be successful with your rotation and future operations. All you have to do is ask.

Once you have your SOP in the hands of all your Soldiers, use it. Make it mandatory knowledge, and enforce its use in all aspects of your training.

## 2. Train on Preparing for a Tactical Convoy

Most units are not trained in mission-essential task list (METL) task 55-2-4002, prepare for tactical convoy. This results in a long list of subsequent failures that have catastrophic second and third order effects during convoy operations.

**Train on precombat checks and inspections and troop leading procedures (TLPs).** Soldiers and leaders struggle with precombat checks and inspections and TLPs in general. Correct these shortfalls with a current SOP that standardizes the use of TLPs when preparing a unit for a tactical convoy.

Requiring that the following TLPs be followed leads to the FSC getting a "go" on the performance measures at JRTC:

- ☐ Commander reviews the warning order and begins to make a tentative plan to conduct the mission.
- ☐ Reconnaissance party conducts route reconnaissance.
- ☐ Unit prepares personnel, vehicles, and equipment for movement.
- ☐ Element leaders organize convoy elements for movement.
- ☐ Unit prepares to cross the start point by designating the prescribed time in the operations order.

**Give practice briefs.** In addition to having a standard in the unit SOP for how to prepare for a tactical convoy and training on this task during leader's time training, have your unit give convoy briefs before every movement.

It can be as simple as conducting a brief when your unit picks up ammunition for a range. Pick a leader, and have him brief according to your SOP standard. Practice as often as possible whenever your FSC conducts any kind of mission involving movement. This repetition will make leaders more familiar with the briefing process and what they need to cover in order to be successful in future operations.

Make sure your leaders are conducting back briefs. At a minimum, every Soldier should be able to brief the route, checkpoints, and all of the battle drills associated with conducting a tactical convoy.

## 3. Train on Convoy Defense

METL task 55-2-4006 deals with convoy defense. Most Soldiers do not know their convoy battle drills, and many units have not rehearsed or practiced them prior to coming to JRTC. This results in catastrophic losses for both personnel and equipment when the opposing force attacks the rotational training unit along the routes.

**Include standard battle drills in the tactical SOP.** The SOP should clearly outline what the battle drills are and what actions are to be taken for each one. The individual and collective

tasks associated with convoy operations are quite extensive. Therefore, once you have a clear SOP, you may want to establish a separate SOP strictly for convoys.

You must allocate a great deal of your quarterly training time to building proficiency. Have multiple repetitions that build on previous training and ultimately lead to a culminating training exercise.

**Run convoy situational training exercises and live fires.** Schedule a convoy situational training exercise lane or convoy live fire for the end of the quarter before coming to the JRTC. Training for this starts at the beginning of the quarter and ties in with the training for preparing a unit for a tactical convoy.

Using the crawl, walk, run method and task, conditions, and standards associated with conducting a tactical convoy, use every movement as an opportunity to train on your battle drills. Pick one drill, brief it in the convoy brief, conduct the movement, and then simulate reacting to one of the battle drills. After the mission, conduct an after-action review, identify the friction points in your reactions to that drill, and refine your SOP.

Do this in conjunction with your leaders' time training, and build each week upon the last. Ultimately, you should be working toward a convoy live fire or situational training exercise lane that has all the battle drills emplaced along the route.

## 4. Train on CP Setup and Operation

METL task 63-2-4012 is establish and operate a command post (CP). Units are coming to JRTC with the guidance that they are going to be austere while operating in the box. They mistake "small footprint" and "austere" to mean they cannot have power to run their digital systems. However, the Battle Command Sustainment Support System (BCS3) is crucial to being successful at the JRTC and in other austere environments.

BCS3 is tracked and reported

higher when units are not using it. The trend is that units either have BCS3 at JRTC but are not using it or they are not bringing it at all.

Units that do come with BCS3 often do not have the current updates, and as a result, cannot get it online. Furthermore, units seldom

have trained personnel that are proficient in using the system.

**Have both analog and digital trackers.** Another common trend is that FSCs are not physically setting up their CPs to standard. Often units are not familiar with the tasks associated with setting up a

CP. In addition to digital systems, a successful FSC CP will have analog trackers. You should still be able to track commodities in the event you lose power.

The trend is that analog trackers are not being created or implemented. The result is that the FSC cannot track what the forward units have, what their rates of consumption are, or when they will need resupply. This causes reactive, as opposed to predictive, logistics and leads to no-notice missions for emergency resupply when a forward unit goes black.

**Create a tactical SOP.** Start with the unit SOP. Create an annex or chapter on how you will set up your CP, who will man what, what you are going to track, and how you are going to track it.

Start sending Soldiers to training to become proficient on BCS3. Also, take the system out and make sure you have the latest software. Furthermore, dedicate a few days each quarter to setting up your CP and running your daily operations from it. This will allow you to identify friction points and correct them before coming to the JRTC.

By understanding these keys to success, planning your training accordingly, and implementing these recommendations, you will improve your FSC's overall readiness. Taking these steps should help your unit excel at JRTC and be successful in future operations.



*A lieutenant gives a convoy brief prior to a mission at the Joint Readiness Training Center at Fort Polk, Louisiana. (Photo by Capt. Daniel W. Ludwig)*

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*Spc. Joshua Robichaux, a parachute rigger with the 5th Quartermaster Theater Aerial Delivery Company, 39th Transportation Battalion, 16th Sustainment Brigade, receives virtual land navigation training on April 29, 2015, at the Baumholder Digital Training Center in Germany. (Photo by Sgt. Daniel Wyatt)*

## Be Realistic: A Model for Home-Station Training

The 16th Sustainment Brigade leveraged partnerships and technology to create realistic home-station training environments for its units.

■ By Maj. Aaron D. Beam and Jeff Hodges

Army sustainment units are the daily workhorses of the operational force. These organizations satisfy support requirements around the clock, sustain themselves, support named operations, and prepare for full-spectrum unified land operations (ULO).

The training time available to a multifunctional sustainment unit is limited; customer support requirements consume a large majority of

the commander's resources at every echelon. This leaves very little calendar space for foundational warrior training, small-unit collective training, and staff training. All types of Army organizations, but particularly multifunctional organizations, use existing training enablers and support packages to maximize the limited time available to conduct core home-station training at the crawl and walk levels.

The 16th Sustainment Brigade's approach to home-station training was to be committed to realistic and challenging training, partnered with a home-station training enabler, and focused on high-quality training support to accomplish the commander's training objectives across every echelon within the brigade. The brigade, stationed in Baumholder, Germany, partnered with the Joint Multinational Simulation Center's

(JMSC's) Kaiserslautern Mission Training Complex (KMTC).

## Brigade Background

The 16th Sustainment Brigade is the sole sustainment brigade assigned to U.S. Army Europe (USAREUR). It is fully committed to the "Strong Europe" concept, which is to assure, deter, and win in a complex world. As a subordinate organization of the 21st Theater Sustainment Command, the brigade provides sustainment support throughout the U.S. European Command and U.S. Africa Command areas of responsibility (AORs).

In addition to supporting forces assigned to USAREUR, the brigade supports the European Rotational Force assigned to the U.S. European Command from the continental United States. The brigade's subordinate organizations are located in Baumholder, Kaiserslautern, and Grafenwoehr, Germany, and Vicenza, Italy. The brigade moved from Bamberg, Germany, to Baumholder in November 2013 after its redeployment from Operation Enduring Freedom.

## Overall Training Challenge

The JMSC provides mission command training support throughout the USAREUR AOR for all types of training, from warrior tasks through joint task force staff collective training. The KMTC, with locations in Kaiserslautern and Baumholder, is a subordinate division of the JMSC and provides Title 10 training support throughout the western Germany corridor. The KMTC, with a staff of 17 personnel (Army civilians and support contractors), provides mission command training support.

The 16th Sustainment Brigade was faced with a series of training challenges throughout fiscal year 2014. These challenges were present at nearly every echelon of the command and required a crawl- and walk-level training environment (a means) that would prepare the Soldiers to successfully execute a run-level training

event (an end).

The brigade used existing products and services available from the KMTC staff to respond to these challenges at three different levels: warrior tasks, small-unit collective training, and brigade staff collective training.

## The Knights University

Following its deployment to Operation Enduring Freedom in 2013, the 16th Sustainment Brigade noticed that the future leaders it sent to USAREUR's Warrior Leader Course (WLC) had an alarming failure rate. Years of deployments and deployment-focused training, coupled with daily sustainment missions, had led to a significant decrease in the "Knight's Brigade" Soldiers' ability to conduct land navigation. Of the 16th Sustainment Brigade students sent to WLC, 17 percent failed and were returned to the unit.

This challenge prompted a change to how the organization prepared its Soldiers to attend the course. The brigade decided to launch the Knights University, an internal program of instruction (POI) to prepare Soldiers for WLC.

Because of the brigade's land navigation failure rates, three days of the Knights University are dedicated to land navigation. Day one is the crawl-level event—a land navigation refresher. Day two is the walk phase using KMTC assets. During day two, the Knights University leaders use the land navigation training program within Virtual Battle Space 3 (VBS3), the Army's tool for individual and small-unit collective training. Day three, the run phase, is the actual execution of a land navigation course in Baumholder.

The KMTC staff uses the land navigation module, which was originally developed by the Army's Training Brain Operations Center. The module was changed by adding the Grafenwoehr Training Area land navigation course terrain, which had been developed by JMSC. Every start point and checkpoint on the lane was recreated in VBS3.

Grafenwoehr Training Area land navigation special maps and map protractors are provided to Knights University Soldiers. Leaders are detailed to conduct the training, and the KMTC staff provides training and over-the-shoulder support for VBS3.

## Training Success

An initial use case was conducted in October 2013 to determine if this support package was an effective solution. The brigade leaders were very satisfied with the environment, and the training support package was included as a formal component of the Knights University POI. Since then, the KMTC has provided a land navigation training environment for more than 400 Soldiers in the Kaiserslautern area, including all 16th Sustainment Brigade Soldiers headed for WLC.

To assess the overall value of this environment, the KMTC developed a four-question survey to be given to students during each training event. These yes-or-no statement questions are asked before and after each land navigation training event:

- ☐ I am confident in my ability to visualize map terrain.
- ☐ I am confident in my ability to use a lensatic compass.
- ☐ I am confident in my ability to use a map protractor.
- ☐ I am confident in my ability to execute dismounted land navigation.

The survey results indicate a 17-percent increase in confidence following the event. Most importantly, the Knights University three-day land navigation POI has decreased land navigation failures within the brigade from 17 percent to 3 percent.

## The 106th FMSU's Training

The 106th Financial Management Support Unit (FMSU), a company-sized organization, is a subordinate formation of the 16th Sustainment Brigade. The FMSU headquarters is located in Baumholder, and its





*Leaders from the 106th Financial Management Support Unit issue orders during Virtual Battle Space 3 convoy operations training. (Photo provided by 21st Theater Sustainment Command Public Affairs Office)*

detachments are in Kaiserslautern, Grafenwoehr, and Vicenza.

The FMSU commander's greatest challenge was collective training; putting the unit on the road many times per year to train collectively is time-consuming and cost prohibitive. More importantly, the support to FMSU customers would be significantly degraded. In order to conduct one day of training, a traveling detachment would not be available to provide financial support for four days.

The 106th FMSU approached the KMTC with a single question: Can the KMTC create an environment that allows the FMSU's units to conduct collective, crawl-level, mission-essential task list training from their home stations? Just as with other 16th Sustainment Brigade training events, the KMTC leveraged tech-

nology to meet the challenge.

The 106th FMSU required a training environment that would support one of its primary mission-essential tasks, "Protect the FMSU." The unit commander wanted his detachment commanders to train these tasks while maintaining the ability to observe the training. He also wanted to facilitate an after-action review at the conclusion of the training day.

The 106th FMSU selected the terrain to be used during the event and created an operation order that provided the detachments with the information necessary to begin troop leading procedures. At the same time, the KMTC staff initiated a joint exercise life cycle for the event. The JMSC tactical gaming branch and the Vicenza Mission Training Complex were included in this joint exercise life cycle.

Three planning conferences and a series of internal testing events were conducted to prepare for the July 2014 event. The government nonsecure network connected the sites to create a seamless training environment.

The event was conducted as planned on July 17, 2014. The FMSU commander and detachment commanders accomplished their core warrior and collective task training objectives.

This event was the first time that VBS3 had been used in this manner (using a government network to distribute an environment to four locations in two countries). The four locations were connected using existing encryption devices and the enterprise unclassified network; no funding was required to lease a commercial circuit for this training event.



*Soldiers from the 16th Sustainment Brigade's 106th Financial Management Support Unit huddle for a tactical convoy briefing during a training exercise involving Soldiers from four geographical locations in Germany and Italy on July 17, 2014. (Photo by Sgt. Daniel Wyatt)*

## Brigade Staff Training

The 16th Sustainment Brigade staff is, like any other staff in the Army, fully engaged in day-to-day operations and planning for upcoming support missions. Unlike other brigade staffs, however, it is a theater-level asset that receives, stages, integrates, and sustains Army and multinational units across two continents. Very little time is available for this staff to dedicate to internal staff training; literally every day brings new requirements and changing landscapes.

Two internal staff exercises, designed as crawl-level events, were conducted to prepare the staff for a final run-level command post exercise (CPX). The first of these internal training events was a staff exercise (STAFFEX) conducted at the Baumholder Mission Training Complex in August 2014. The following goals were the STAFFEX training objectives:

- Understand the unique role the brigade has in ULO.
- Understand how ULO principles affect the organization's mission with regard to geographic location.

- Conduct the military decision-making process (MDMP) with a focus on deployment readiness and theater opening.
- Build teamwork across the staff.

The KMTC staff prepared a full higher headquarters operation order with annexes that enabled the staff to begin planning for a large-scale theater opening mission. The JMSP provided a mission command program instructor to provide an MDMP overview and over-the-shoulder support to the staff during the event.

During this four-day event, the brigade staff visualized the challenges associated with operational reach and the sustainment tasks associated with theater opening, initial reception of forces, and the sustainment of a large field force for an extended period of time.

## The CPX

Using the same operational environment and products used and developed in the August STAFFEX, the brigade conducted a CPX in October 2014. In this particular exercise, the brigade operated from its deployable

command post located in the Baumholder training area. In addition to conducting a theater opening exercise, the brigade managed current operations within the USAREUR AOR.

The following were training objectives for the CPX:

- Conduct sustainment operations with a focus on theater opening functions (reception, staging, onward movement, and integration and the initial distribution system).
- Direct the establishment of the brigade support area.
- Direct operational area security.

In this particular exercise, the brigade, using a decisive action training environment scenario, received and staged U.S. forces in a hostile theater while maintaining current operations in the USAREUR AOR. The exercise was supported by the KMTC staff and its products and the 21st Theater Sustainment Command. It included exercise control, higher control, and observer-controller support to provide a complete exercise environment in support of the CPX.

The brigade began receiving critical



operational information a week before the exercise began so that the staff could continue with the MDMP initiated at the STAFFEX and prepare to execute the core reception, staging, and onward movement tasks during the CPX.

Three days after the CPX start date, the conditions were set for the brigade staff to enter into a very complex environment. Common operational pictures for current operations and the decisive action training environment were available so that the staff members could see themselves and their Soldiers in both theaters in real time throughout the exercise.

Critical information was provided throughout the event using a master scenario events list; a total of 437 injects were provided to the staff during the event. Most of the injects were provided by 16th Sustainment Brigade Soldiers role playing from response cells. These injects covered the entire range of information, from daily logistics and personnel status reports to troops in contact reports.

Live training aids and events were included as a component of the CPX. The USAREUR multinational counter improvised explosive device team and the 16th Sustainment Brigade provided opposing force trained elements of the 16th Sustainment Brigade special troops battalion on identifying and reacting to improvised explosive devices and providing security throughout the exercise.

Additionally, the 5th Quartermaster Theater Aerial Delivery Company, a 16th Sustainment Brigade subordinate unit, airdropped supplies into the Baumholder training area. In effect, the brigade staff trained in a combined live and constructive simulation event, known within the training community as a blended training event.

## So What?

What is the significance of the 16th Sustainment Brigade's training program? Training was planned, prepared, and executed, but was there any real value?

As mentioned, WLC land navi-

gation failure rates have decreased from 17 percent to 3 percent. More Soldiers are maximizing the unit's investment in WLC and not being returned to their unit for retraining and subsequent return to the course. More importantly, a greater number of Soldiers are gaining the confidence that is necessary to transition into a junior leadership position.

The 106th FMSU training events represented significant cost avoidance for the unit. The unit commander saved three days for each collective training event by avoiding two travel days and one preparation day. No travel dollars were spent, and the detachments stayed at their assigned locations to provide customer service to their units.

The 16th Sustainment Brigade STAFFEX and CPX provided the most significant cost avoidance. During the internal event, the KMTC provided the staff with a complete set of operational products. The unit used facilities and equipment provided by the Baumholder MTC. JMSC provided MDMP training and over-the-shoulder support during the STAFFEX.

The simulation model provided the 16th Sustainment Brigade with the opportunity to visualize and react to the delivery of personnel and goods, supply consumption, and the challenges that face a sustainment brigade during the early phases of a large-scale ULO.

The environment that the KMTC staff created is the only type of environment that permits this kind of operation, on this scale. A home-station, commander-centered exercise is the only opportunity the commander has to train his staff before deployment or for a larger scale CPX in which his unit will likely not be the primary training audience.

The 16th Sustainment Brigade incurred no monetary charges for any of the support it received. JMSC services for home-station training are a sunk cost to JMSC, JMTC, and USAREUR. The KMTC increased the value of its product lines by reusing

products throughout the training cycle.

This is not to say that there is no cost to the unit; a unit must assist in planning and preparing the training event and, in some cases, must provide the task trainers. These are critical tasks in support of an exercise, and the exercise will not be successful if a unit does not accept those roles.

The 16th Sustainment Brigade made full use of the products and services provided by the KMTC throughout fiscal year 2014. This relationship continues to mature and evolve as current training requirements are refined and new requirements are identified.

Synergy can develop between a unit and its enabler at any location. Success does not require new devices or additional resources; it simply requires adhering to the principles of home-station training, thinking big, and committing to getting the work done.

The synergy between the 16th Sustainment Brigade and the KMTC is a model that can be adapted at any home station as long as the trainers and enablers trust each other and commit themselves to setting conditions that allow the commander to achieve training objectives.

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*During a squad field training exercise in March 2014, the 1st Support Maintenance Company commander validates squads on individual and collective chemical, biological, radiological, nuclear, and high-yield explosives common warrior skills and tasks.*

## Overcoming the Anxiety of the Defense CBRNE Response Force Mission

The 1st Support Maintenance Company prepared for its defense CBRNE response force mission using sergeant's time training and by adding CBRNE tasks to regular duties.

■ By Capt. David A. Lukefahr

The unfamiliarity of a joint task force civil support (JTF-CS) defense CBRNE [chemical, biological, radiological, nuclear, and high-yield explosives] response force (DCRF) mission can cause fear of the unknown to grow within the ranks when a unit receives this tasking. But in reality, a plan to prepare for a DCRF mission is no different

than any other unit-level training plan. It requires a gated training strategy that builds collective tasks from individual to squad to platoon to company level.

With this flow as the foundation, a company can follow a relatively easy glide path to successfully complete the training required for DCRF mission validation. Ultimately, to prepare

for a DCRF mission, a unit trains on readiness in line with the requirements of an always ready Army.

The DCRF mission requires a unit to be on call 24 hours a day, 7 days a week. The unit must be ready to deploy Soldiers and equipment to any continental United States location within 24 hours of receiving an alert. It must then deploy, be on site, and be ready



to respond to a variety of situations, including terrorist attacks and natural disasters, within 72 hours of the alert.

In essence, a DCRF unit should train toward the desired end state of being able to provide the right response with the right expertise in the right amount of time with the right people. Mastering these four goals will allow a unit to help alleviate suffering, expedite recovery, and assist local, state, and federal agencies such as the Federal Emergency Management Agency and Defense Security Cooperation Agency.

### **Sergeant's Time Training**

The 1st Support Maintenance Company (SMC), 541st Combat Sustainment Support Battalion, 1st Sustainment Brigade, 1st Infantry Division (now known as 1st Infantry Division Sustainment Brigade), began preparing for the DCRF mission nine months before the required mission assumption date. The preparation began with sergeant's time training covering the individual and squad collective tasks required for Soldiers to operate in a CBRNE environment.

Most of these tasks came from Soldier Training Publication (STP) 21-1-SMCT, Soldier's Manual of Common Tasks Warrior Skills Level 1, Subject Area 8: Survive/React to Chemical, Biological, Radiological, and Nuclear (CBRN) Attack/Hazard. During the first three months, platoons trained on these tasks weekly. Every third week of the month, the company also incorporated low density training, allowing maintainers to refine their military occupational specialty duties.

### **Combat Training Center Rotation**

An unintended benefit that helped build confidence and alleviate anxiety was the company's assignment to support the 541st Combat Sustainment Support Battalion at the Joint Readiness Training Center at Fort Polk, Louisiana, during the 14-02 rotation.

The company assumed the Quartermaster missions of providing classes I (subsistence), IV (construc-

tion and barrier materials), V (ammunition), and IX (repair parts) support along with its usual tasks of field maintenance and recovery support. After completing the rotation, the company knew that assuming a mission outside of its regular or expected mission was not impossible. Instead, the exercise proved that the company could accomplish any task.

The squad field training exercise provided a platform for the company commander to validate each squad's ability to complete 11 tasks and troop leading procedures.

### **Field Training Exercises**

The squad field training exercise provided a platform for the company commander to validate each squad's ability to complete 11 tasks and troop leading procedures. This built trust in squad-level leaders and confidence within the team.

After validating all of the squads, the company focus shifted to the mission-essential tasks of defending the assigned area and establishing the unit area of operations. The culminating event, a platoon field training exercise, was conducted during the last three months of training.

Although the DCRF mission does not immediately require the initial security measures that come to mind, focusing on the mission-essential task of defend assigned area forced each platoon to establish its area of operations in a defensive posture against CBRNE attacks. The task of setting up an area of operations in an austere environment honed necessary skills, such as setting up tents, convoy operations, and conducting platoon-level tasks in a CBRNE environment.

### **EDRE**

The last three months of training focused on the mission-essential task of deploy and redeploy the unit. This required the use of an emergency de-

ployment readiness exercise (EDRE).

EDREs are broken into three levels. Level 1 tests the company's ability to muster and the administrative portion of a DCRF alert. Level 2 tests the company's ability to complete all tasks prior to the actual deployment of Soldiers and equipment within 24 hours of notification. Level 3 tests the company's ability to deploy and establish itself at

another location within 72 hours.

**Level 1.** The company began to ensure all deployment requirements were met so that it could be capable of deploying within 24 hours of notification. This included maintaining an accurate phone roster, practicing random alerts to enforce the standards, and most significantly, maintaining the readiness of each Soldier.

The 1st SMC tackled this with weekly company commander and platoon leader meetings to review records systems, including the Deployment and Reconstitution Tracking Software, Soldier readiness processing requirements, the Medical Protection System, individual Digital Training Management System records, the Unit Personnel Accountability Report, the rear-detachment roster, required legal briefings, and DCRF-required immunizations.

Tracking every Soldier on each task may seem tedious, but it allowed leaders to ensure the correct number of Soldiers were deployable.

**Level 2.** The 1st SMC began pre-staging required equipment. The company preloaded all CBRNE, basic load, repair parts, and DCRF equipment into containers in the motor pool. Some equipment, such as classes I and V, still have to be picked up within the 24-hour period

after notification.

The vehicles designated for DCRF were cycled through preventive maintenance checks and services, quality assurance and quality control, and a movement control inspections to ensure all requirements for all modes of transportation were met prior to deployment. These tasks helped the company conduct all EDRE levels.

**Level 3.** The company conducted one EDRE per month and attended the JTF-CS Vibrant Response Exercise at Camp Atterbury, Indiana. This allowed the company to execute a level-3 EDRE even though the element of surprise was not present since time lines were known. This also allowed the company to be validated by JTF-CS to conduct its maintenance mission in support of the DCRF mission. The 1st SMC's primary mission was to provide wheeled and ground support equipment maintenance and wheeled vehicle recovery support.

### Maintainer CBRNE Training

Maintenance support was not a specific focus during sergeant's time training, except for the month-

ly low-density military occupational specialty focus because throughout the DCRF training the mission of providing field-level maintenance and recovery support still existed. The enduring external maintenance support that the 1st SMC provided for the division allowed the company to maintain its technical expertise on maintenance support.

The creative way the noncommissioned officers tackled this dual mission was simply to pretend they had to do the enduring mission in a CBRNE environment. This meant wearing gas masks while conducting tasks such as services, driver's training, combat lifesaver training, physical fitness, and mission support. Once the standard uniform for the company included a gas mask and joint service lightweight integrated suit technology, the idea of being ready for CBRNE situations became second nature for the Soldiers.

### Family Readiness

Soldiers within the company were not the only people assuming the DCRF mission in the 1st SMC. Families also had to make adjust-

ments. No longer were Soldiers home a year, gone a year. Family dynamics and plans had to be adjusted for a 24-hour movement notice.

This caused initial stress levels to rise for families. To combat this, Soldiers and families attended Army Community Service classes, community job fairs, military family life consultant meetings, and chaplain consultations as needed. All Soldiers updated their family care plans.

The family readiness group was important. It used the company's email distribution, Facebook page, and community events to keep families informed. The company also had DCRF family briefings to make sure everyone understood the difference between past deployments and the current mission. Ultimately, company leaders' efforts to make family readiness a priority ensured the Soldiers' readiness and thus mission readiness.

Preparing for the DCRF mission required a change in training and operational procedures for the 1st SMC. Adding CBRNE to its sergeant's time training and Joint Readiness Training Center training and having the maintainers train for CBRNE as they worked helped prepare the unit for the new mission. Including families in the preparation process was key to ensuring Soldier readiness. The result of these efforts is a company whose Soldiers are ready to respond to an alert within 24 hours and ready to establish operations at the deployment location within 72 hours of the alert.



*Before staging the vehicles for a convoy during the level-3 emergency deployment readiness exercise in September 2014, noncommissioned officers from the 1st Support Maintenance Company inspect all of the equipment and basic issue items to ensure they are fully mission capable.*

Capt. David A. Lukefahr is currently pursuing a master's degree in organizational change from Hawaii Pacific University. He was the commander of the 1st Support Maintenance Company, 541st Combat Sustainment Support Battalion, 1st Infantry Division Sustainment Brigade, at Fort Riley, Kansas. He holds a bachelor's degree in applied mathematics and is a graduate of the Combined Logistics Captains Career Course.



# Integrating the SPO Medical Section Into BCT Medical Planning and Ops

■ By Capt. Clarence L. Ketterer

The support operations (SPO) medical section is integral to synchronizing the brigade combat team's (BCT's) concept of medical support. Unfortunately, many BCTs deploy to the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, without filling these critical positions. Or they fill these positions with inexperienced junior officers or noncommissioned officers who are unfamiliar with how their roles and responsibilities fit into the BCT's Army Health System (AHS) plan.

This problem is compounded by the fact that many logisticians in the brigade support battalion (BSB), to include the SPO and the S-3, do not clearly understand how the medical teams are integrated. This article describes the roles and responsibilities of the essential medical staff members and explains how the BCT can integrate the medical team into the planning and operations process.

## Roles and Responsibilities

The roles and responsibilities of and the relationships among the BCT surgeon cell, the SPO medical section, and the battalion medical operations officer are very similar in nature to those of the BCT S-4, the SPO, and the battalion S-4s. (See figure 1.)

**BCT surgeon cell.** Like the BCT S-4 is responsible for developing the sustainment plan, the BCT surgeon is responsible for developing the AHS plan and determining the requirements necessary to support it.

The BCT surgeon cell is not designed or manned to manage the transition of the AHS plan from future operations to current operations. By

properly staffing and employing the SPO medical section, the BCT surgeon cell can hand off the AHS plan for execution so that it can continue its designed function—planning for the future.

If the SPO medical section is not utilized properly, the BCT surgeon cell may attempt to manage the future-to-current-operations transitions and quickly become overwhelmed.

**SPO medical section.** The SPO medical section synchronizes the BSB's medical capabilities against the BCT requirements and coordinates support with echelons-above-brigade medical units, such as forward surgical teams, medical logistics companies, and blood platoons, to support BCT requirements that cannot be filled internally.

Because it is part of the planning process and has medical asset visibility throughout the BCT, the SPO medical section is responsible for providing medical operations guidance and reports to the BSB commander.

Army Techniques Publication 4-90, Brigade Support Battalion, Chapter 2, describes SPO section roles and responsibilities that should fall to or include the SPO medical section.

**BSMC.** The SPO medical section manages the brigade support medical company (BSMC) in the same manner that the SPO manages the distribution and maintenance companies in the BSB. The company receives taskings from the BSB S-3 through the orders process to support requirements that are generated from the SPO medical section as part of the BCT's AHS plan.

The SPO medical section synchronizes the movement of the BSMC's additional enablers, such as dental, preventive medicine, medical main-

tenance, and physical therapy, with the subordinate battalions as a part of the BCT's AHS plan.

The BSMC, like the distribution company, also serves as the supply support activity for class VIII (medical materiel). The brigade medical supply officer resides in the BSMC but is aligned with the SPO section and acts as the class VIII commodity manager, filling requirements generated by the SPO medical logistics officer.

Field Manual 4-02.1, Army Medical Logistics, Appendix E, discusses the roles and responsibilities of the SPO medical logistics officer and the brigade medical supply officer in greater detail.

## Medevac

The SPO medical section is essential to effective and well-synchronized medevac. Although most Soldiers see the medevac process as a current operations fight, it is actually a deliberate process that should employ the rapid military decisionmaking process.

Medevac starts as a future operation and is handed off to current operations. The critical link in this process is the SPO medical section, which is crucial to synchronizing medevac support requirements.

As seen in figure 2, the BSMC has limited mission command systems that may not be able to maintain situational awareness of current operations throughout the BCT. Because mission authority for medevac generally resides at the BCT, requests are submitted by the battalion to the BCT surgeon cell. The BCT surgeon cell then prioritizes the medevac requests and informs the SPO medical section of support requirements needed from the BSMC, such as

ground evacuation assets, class VIII, and security.

The SPO medical section then informs the BSMC of the requirements and synchronizes the movement of assets. Once patients arrive, the SPO medical section coordinates the evacuation of patients to higher roles of care.

Although most sustainment is meant to be predictive and many of the medical sustainment functions are, the medical team across the BCT is one of the only sustainment functions that routinely supports emergency requests.

## Mission Command Systems

The battalion and BCT medical planners have access to all of the

major mission command systems. However, they do not own those resources, and they may not always be co-located with them.

This is common because the battalion medical planner normally moves between current operations, the battalion administrative and logistics operations center, and the role 1 command post. In the same way, the BCT surgeon cell needs access to both the BCT administrative and logistics operations center and BCT current operations to effectively manage the AHS plan.

The SPO medical section is located in the SPO cell, which has access to all of the major mission command

systems without having to rely on current operations. This enables the SPO medical section to be responsive across all mission command systems at any time.

Figure 2 shows the flow of information between and the roles and responsibilities of the BCT SPO and the battalion medical planners and enablers for medical communications. It also shows the assets available to each section that must be considered in planning how to send and receive information.

## Reporting Requirements

The SPO medical section is responsible for gathering and consoli-

Roles and Responsibilities		
Future Operations	Future / Current Operations	Current Operations
<b>Brigade Medical Planner</b> <ul style="list-style-type: none"> <li>• Produces BCT orders for HSS.</li> <li>• Provides input for medical IPB.</li> <li>• Establishes medical reporting requirements.</li> <li>• Tracks patients.</li> <li>• Recommends medical reporting requirements.</li> <li>• Determines BCT FHP requirements.</li> <li>• Determines EAB requirements for BSB SPO MEDO.</li> <li>• Works with the BCT S-1 to determine casualty estimates.</li> <li>• Coordinates with air medevac assets.</li> <li>• Publishes orders through the BCT S-3.</li> <li>• Coordinates medical budget with the BCT S-4.</li> </ul>	<b>BSB SPO Medical Operations Officer</b> <ul style="list-style-type: none"> <li>• Performs medical IPB for BSB.</li> <li>• Synchronizes HSS in BCT.</li> <li>• Acts as BCT point of contact for HSS.</li> <li>• Coordinates ancillary services and assessments.</li> <li>• Receives and consolidates BCT medical statistics.</li> <li>• Communicates with battalion MEDOs and EAB assets.</li> <li>• Monitors BCT HSS via mission command systems.</li> <li>• Coordinates BCT taskings for the BSMC.</li> <li>• Coordinates and tracks PM missions and assessments.</li> <li>• Coordinates EAB requirements.</li> <li>• Conducts the BCT MEDSYNCH.</li> <li>• Publishes orders through the BSB S-3.</li> </ul>	<b>Battalion or Task Force MEDO</b> <ul style="list-style-type: none"> <li>• Produces battalion MED Annex to orders.</li> <li>• Determines and synchronizes HSS.</li> <li>• Coordinates class VIII and BCT MED support.</li> <li>• Communicates with the BCT MEDO and SPO MED section.</li> <li>• Coordinates patient evacuation from company command posts to role 1 facility.</li> <li>• Establishes the role 1 command post.</li> <li>• Tracks patients and medical reporting for the battalion.</li> <li>• Publishes orders through the battalion S-3.</li> </ul>
<b>Brigade Surgeon</b> <ul style="list-style-type: none"> <li>• Acts as senior advisor to the BCT commander for HSS.</li> <li>• Responsible for the BCT FHP Plan.</li> <li>• Prioritizes medevac requests.</li> <li>• Supervises technical training for medical personnel in the BCT.</li> <li>• Acts as senior advisor to BCT providers and medical support personnel.</li> <li>• Coordinates PROFIS.</li> <li>• Recommends medevac policies and procedures.</li> <li>• Ensures compliance with the MEDROE.</li> <li>• Develops policies, protocols, and procedures for medical and dental treatment.</li> </ul>	<b>BSB SPO Medical Logistics Officer</b> <ul style="list-style-type: none"> <li>• Inherently links to the BMSO.</li> <li>• Determines the class VIII (medical materiel) ASL, packing lists, and emergency push packs.</li> <li>• Projects BCT class VIII.</li> <li>• Recommends budget guidance.</li> <li>• Tracks BCT critical class VIII and MED equipment maintenance.</li> <li>• Acts as BCT MC4 point of contact.</li> <li>• Coordinates all class VIII movement requests.</li> <li>• Plans for use of captured class VIII and MED equipment.</li> <li>• Coordinates RMW disposal.</li> <li>• Coordinates MED maintenance for EAB enablers attached to the BCT.</li> <li>• Conducts the BCT MEDSYNCH.</li> </ul>	<b>Battalion Surgeon</b> <ul style="list-style-type: none"> <li>• Advises the commander on the health of the command.</li> <li>• Supervises technical training for medical personnel.</li> <li>• Determines BAS manning and workload requirements.</li> <li>• Ensures compliance with the MEDROE.</li> <li>• Ensures medical personnel comply with treatment policies, protocols, and procedures.</li> <li>• Develops the treatment area layout.</li> </ul>
		<b>BSMC Commander</b> <ul style="list-style-type: none"> <li>• Synchronizes role II support with the BCT HSS plan.</li> <li>• Integrates EAB MED assets into the BSMC footprint.</li> <li>• Supports medevac and ancillary support requests.</li> <li>• Orders, receives, and distributes class VIII and provides MED maintenance for the BCT.</li> </ul>
		<b>BMSO</b> <ul style="list-style-type: none"> <li>• Manages BCT class VIII ASL and warehouse.</li> <li>• Supervises BCT MED maintenance.</li> <li>• Orders BCT class VIII using DCAM.</li> <li>• Develops and stores class VIII push packages.</li> <li>• Coordinates class VIII delivery with BSB SPO MEDLOG.</li> <li>• Collects BCT RMW.</li> </ul>
<b>Legend</b> <div> ASL = Authorized stockage list  BAS = Battalion aid station  BCT = Brigade combat team  BMSO = Brigade medical supply officer  BSB = Brigade support battalion  BSMC = Brigade support medical company  DCAM = Defense Medical Logistics Standard Support (DMLSS) Customer Assistance Module  EAB = Echelon above brigade  FHP = Force health protection  HSS = Health service support  IPB = Intelligence preparation of the battlefield  MC4 = Medical Communications for Combat Casualty Care  MED = Medical  MEDLOG = Medical operations officer  MEDO = Medical logistics officer  MEDROE = Medical rules of engagement  MEDSYNCH = Medical synchronization  PM = Preventive medicine  PROFIS = Professional Filler System  RMW = Regulated medical waste  SPO = Support operations </div>		

Figure 1. This table describes the roles and responsibilities of the medical staff in the brigade combat team.



## Medical Communications Systems and Responsibilities in the BCT

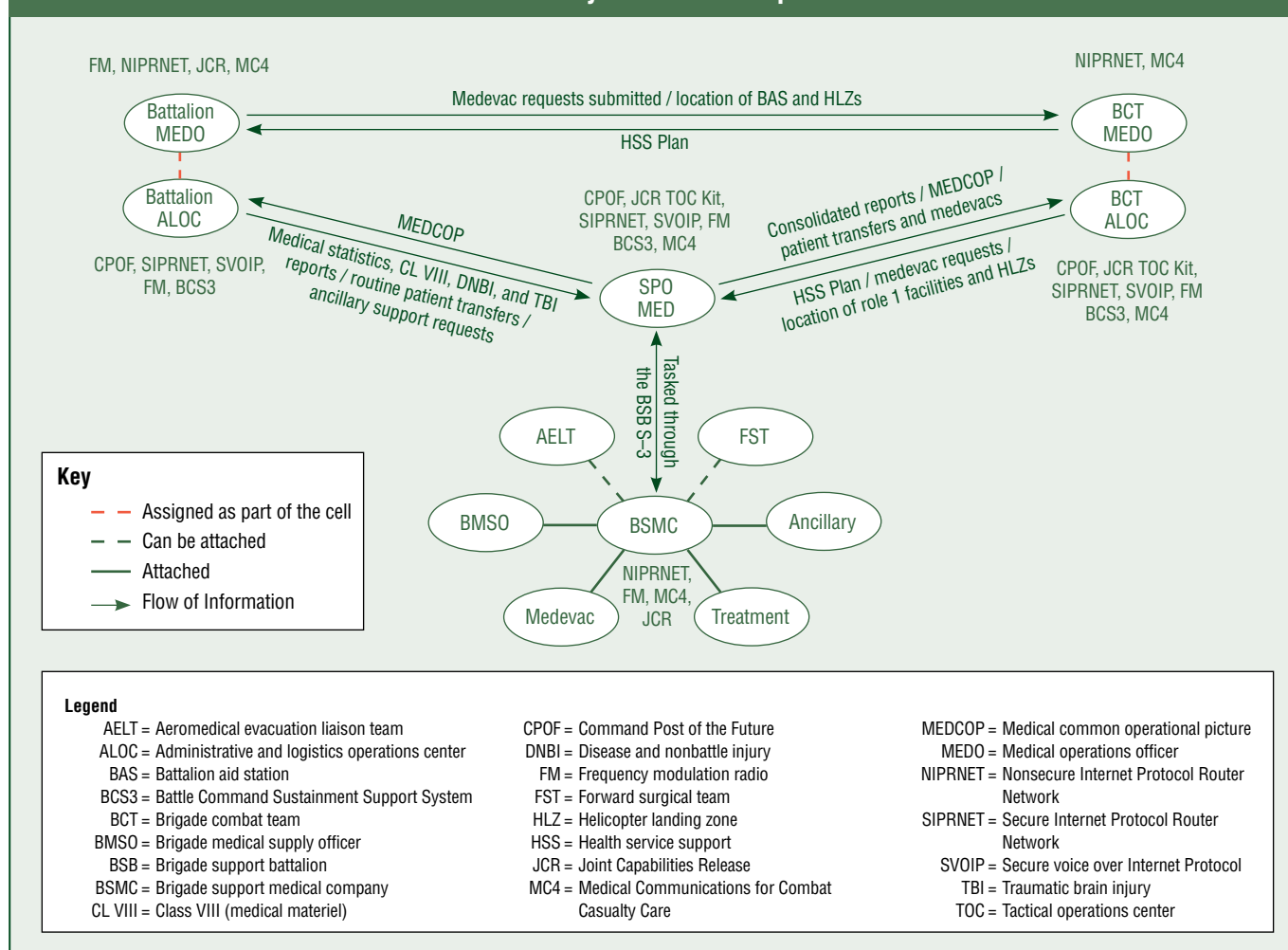


Figure 2. This chart explains the mission command systems available to and medical reporting responsibilities of each medical element in the brigade combat team.

dating required reports. These reports are directed by the BCT surgeon cell with significant input from the SPO medical section.

The SPO medical section gathers and consolidates the required reports, synchronizes medical support as needed, and works with the SPO and the S-3 section to publish medical support requirements in a tactical order.

Since the SPO medical section is responsible for managing and maintaining the medical common operational picture (MEDCOP), it is also responsible for entering the reported data into the MEDCOP. The MEDCOP should contain the locations of roles of care, class VIII status, num-

ber of patients seen by type, and any other relevant information.

The MEDCOP, maintained in both digital and analog formats, uses the same maps as maneuver and logistics forces and is critical in improving situational awareness for the SPOs and decision-making commanders at all levels. Timely and accurate reports are required for the MEDCOP to be an effective tool.

This article is not designed to be the definitive reference for medical roles and responsibilities. It is each BCT medical team's responsibility to discuss, establish, and publish its roles and responsibilities in the applicable standard operating procedure so that it

can be easily understood and adhered to during operations. Hopefully, this article has helped to explain the importance of the SPO medical section and the ways that it can be integrated into the planning and orders process to support BCT operations.

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*Engineers from the 2nd Cavalry Regiment perform dig site operations at the Grafenwoehr Training Area in Grafenwoehr, Germany, on Feb. 14, 2013. (Photo by Markus Rauchenberger)*

## Supporting Engineers in Action

■ By Capt. Cristian Radulescu

In April 2015, the 2nd Cavalry Regiment conducted a successful rotation at Hohenfels Training Area in Germany, where it participated in Operation Saber Junction. This decisive action training environment (DATE) rotation, enabled logisticians to practice supporting the regimental engineer squadron (RES), also known as the brigade engineer battalion (BEB).

The BEB is a new concept to the Army. Army Techniques Publication 3-34.22, Engineer Operations—Brigade Combat Team and Below, describes the BEB as a transition from, or hybridization of, the special troops battalion.

### Preparing for BEB Sustainment

I am the commander of the forward

support troop (FST) of the 2nd Cavalry Regiment's RES. In command for six months and with a new troop, I had the opportunity to learn how to support a BEB on the battlefield.

I took command of an under-equipped troop that was behind on training. Our leaders understood this, so the DATE rotation represented more of a learning opportunity than a validation, although we eventually achieved validation. Once we received funding, we worked toward equipment readiness for the DATE. We made training opportunities count, we were fielded vital equipment, and shortages were filled just in time.

Considering our available Soldiers and equipment, we maximized sustainment assets to support seven troops (including the regimental

headquarters) and four attached platoons (a total of 741 Soldiers). The FST deployed with 66 Soldiers (nine cooks, 12 distribution platoon personnel, 37 mechanics, and eight headquarters personnel) and 25 trucks.

We fielded two M984 wreckers, two M1113 humvee contact trucks, two forward repair systems (FRSs), a very small aperture terminal (VSAT), two M978 heavy expanded-mobility tactical truck fuel servicing trucks, a containerized kitchen (CK), a multi-temperature refrigerated container system, a load handling system (LHS) water tank rack (hippo), and two water buffaloes.

The challenge with equipment readiness and Soldier availability was apparent when I looked at our modified table of organization and equip-



ment (MTOE). In the 16-Soldier distribution platoon, I had one ammunition sergeant and one petroleum supply sergeant. The rest had to be cross-trained.

Two M1151 gun trucks provided front and rear security and doubled as contact trucks. Two more gun trucks with Joint Capabilities Release served as command trucks. One of them was my command post, and the other accompanied the logistics convoys.

We could distribute logistics packages with four LHS trucks and palletized load system trailers, but those same trucks and trailers also carried our hippo, FRSSs, and refrigeration system. The solution was organizing secondary loads and load plans.

## The RES in Saber Junction

During Operation Saber Junction, the RES's headquarters and headquarters troop provided role 1 medical care; chemical, biological, radiological, nuclear, and explosives reconnaissance; and a regimental captured persons collection point with two attached military police (MP) platoons from the 18th MP Brigade.

The A Troop engineers were detached; they supported engagement area development for the infantry squadron and conducted a combined arms breach. The B Troop provided engagement area development with a horizontal platoon attachment from the 15th Engineer Battalion and route clearance. Both engineer troops provided obstacle reconnaissance for maneuver commanders.

The C Troop (signal) provided retransmission. The D Troop (military intelligence) flew the unmanned aerial vehicle platform that, combined with field artillery, was effective against the opposing force. Human intelligence teams with attachments from civil affairs were effective in turning the insurgents to our side, enabling the RES to perform wide-area security and conduct stability operations.

## Soldiering

The FST, with its trucks, trailers, FRSSs, and CK (which must be con-

tinuously dropped and set on flat ground), was challenging to conceal from enemy intelligence, surveillance, and reconnaissance.

After initial entry, the FST scouted a better position to set up its field trains command post. Equipment had to remain expeditionary. This required some planning, considering all of our necessary secondary loads (sanitation unit, class IX [repair parts] bench stock, stacks of flat racks, and petroleum, oils, and lubricants).

We relocated our field trains command post multiple times in the wooded, hilly terrain of Hohenfels and effectively concealed our large silhouette by using what was available to us. We became more efficient with every troop jump, quickly cutting the process to under two hours and pre-positioning our assets to be mission ready.

Our field craft and Soldiering improved in stand-to, roving patrols, and noise, light, litter, and tent flap discipline. In the FST, every Soldier tasked with security is a mechanic, cook, or driver pulled from working a nonstop, real-world sustainment mission, so decisions must be made constantly on security, sustainment, other tasks, and rest (fighter management).

Being on the move limits the ability to dig into hardened fighting positions. Support requirements do not stop, and concealment from enemy reconnaissance is the best defense. We slept in trucks, all facing the rally point, and left our trailers where they could be quickly hitched. We topped off on fuel and water, checked load plans, and secured loads before sleeping.

## Field Feeding

The time frame for providing hot meals is affected by the expeditionary mindset. Cooks normally work a hybrid shift schedule just to meet the regular meal requirements. The CK can feed more than 800 Soldiers with just four cooks. (We tested that.)

The CK comes standard with eight juice jugs and 16 Marmite trays, but my field feeding noncommissioned officer-in-charge anticipated a large

headcount, and we arrived at the DATE with 15 juice jugs and 35 trays.

Depending on the menu of items drawn from the class I (subsistence) warehouse, a "break" (a combination of menu items) can require three to five trays per troop and about three juice jugs. Because of our customers and their locations, we met this requirement for breakfast, but we were unable to pick up the used trays for dinner and replace them with newly filled ones. We circumvented this problem starting with situational training days.

We pushed class I to the engineer troops near the forward line of troops, and the first sergeants from the troops located in the rear came to pick up hot chow for their Soldiers. While our logistics convoys conducted other tailgate replenishment operations at forward logistics resupply points (for fuel and ammunition), food was served. We returned with the same trays that we used for dinner.

During force-on-force days, our ration cycle was M-M-M, meaning the Soldiers had three meals ready-to-eat (MREs) per day. All troops crossed the line of departure with three days of supply and needed one logistics package push of MREs midway to see them through to the end of the operation.

Before Saber Junction, I asked our property book officer for a hippo, and with eight total water buffaloes among the supported units, 5,200 gallons sufficed for 741 Soldiers at a rate of six liters per day per Soldier. I find the hippo useful when the customers are many and dispersed, as they were in our case.

## Fuel Support

Based on the Operational Logistics Planner, Logistics Estimation Workbook, and other logistics tools, I envisioned our bulk fuel consumption to be a challenge. I had only two available fuel trucks out of the four on the MTOE.

D7 bulldozers, route clearance vehicles, and other horizontal engineer assets have high consumption rates,

but they are designed to run all day. The D7's 126-gallon tank can keep it running for 12 hours, and one M978 can top off 18 D7s.

We easily pumped 25,255 gallons of fuel during Saber Junction. We sent one M978 with the logistics convoy to do bulk-to-bulk fuel transfers and kept one in the rear for retail, following the same concept of push-and-pull logistics as we did with class I.

### Class IV Support

An essential task in the regiment's order was delivering class IV (construction and barrier materials). The usual method is throughput from the rear to the area of emplacement, and class IV can quickly eat up pallet space. With my squadron commander forward, I personally commanded the logistics convoy, which included six flat racks of class IV, all mission-configured loads.

Prior to the mission, I realized that no standard planning factors give the necessary depth to class IV logistics data; it is all unit configured. The regiment's engineer planner calculates this data and creates the mission-configured loads. We transported the necessary class IV with our four available LHSs with palletized load system trailers.

One day after crossing the line of departure, we dropped off the class IV to the customer. The engineers canalized the exposed enemy into an open area and prevented their escape when the infantry squadron and Polish allies decisively engaged.

### Convoy Operations

During Saber Junction, we conducted 11 logistics convoys without loss by carefully planning our routes, requesting updates on the main supply route status, and staying clear of enemy-controlled areas. We prioritized the use of our assets and supplies sent forward to the customer units and shared our logistics common operational picture with our S-4 and support operations officer (SPO).

To resupply locations forward and to the rear and to meet mission or-

ders, our logistics convoys operated on a ring route, providing supply point distribution to logistics resupply points. My goal was to maintain the 2nd Cavalry Regiment's and the RES's momentum at all times and minimize our footprint and time spent on the road where we were susceptible to attacks.

### Maintenance Operations

The first day on the battlefield, our convoy had enemies to the front and rear decisively engaged with the reconnaissance, surveillance, and target acquisition squadron, MPs, and engineers. Damaged equipment was recovered and evacuated by my combat repair teams.

We set up our unit maintenance collection point and recovered a total of 32 battle-damaged vehicles (both real and simulated). The pick-up and turn-in of class IX was effectively administered using the VSAT, and the frequent VSAT tear down and set up had minimal effect. The VSAT phone became a hot commodity in an environment where communication was constrained.

In the initial planning conference, I requested an M88 recovery vehicle in the forward logistics element. That request was supported by the SPO and the regiment's S-4. My FST has some recovery shortfalls, and I saw the M88 as a temporary solution.

By MTOE, my FST cannot lift a Stryker or any of the engineer bulldozers because the M984 wrecker's maximum lift capacity is 14,000 pounds. The Army's inventory has more robust recovery equipment (including trailers with winches) that can greatly enhance our recovery capability, but as of now, we can only flat-tow a Stryker. Maybe future MTOE changes will correct this shortfall since the BEB has specific requirements.

Operation Saber Junction was the first time my FST supported the entire RES and the regimental headquarters and headquarters troop as well as MP, engineer, and NATO attachments. We came to fight and

began doing so during situational training days.

In the field alongside our RES as far forward as we could deploy, we pushed to the forward line of troops and pulled logistics from the forward logistics elements or regimental support area. None of our units ever ran out of any class of supply.

The missions, equipment, and requirements for each of the regiment's troops are diverse and complex. The BEB enables the regiment to conduct any mission in any environment. Supporting such a force-multiplying enabler is a unique experience for an FST commander.

I advise my peers to maintain good communication with the S-4, the SPO, and supported units and to carefully forecast requirements, especially as the battle gains momentum and conditions change. We did not once fail in this, but we learned how hard it is to communicate, especially if the enemy is jamming your primary, alternate, contingency, and emergency communications and you are without modern conveniences while mounted and on the move.

Rehearsals smooth out the little things. A good rehearsal is most easily achieved by training with other units and developing chemistry in working together. We prepared by rehearsing before the DATE rotation during squadron gunneries. In Europe, we have the mindset of interoperability and focus on equipment and personnel readiness. Operation Saber Junction highlighted the critical importance of these priorities in an undeveloped theater.

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*Soldiers from B Company, 181st Brigade Support Battalion, 81st Brigade Combat Team, Washington Army National Guard, train on the Haas Automation TL-1, a computer numerical control lathe, at the Sustainment Training Center at the Camp Dodge Joint Maneuver Training Center in Johnston, Iowa.*

## Training Solutions for Army National Guard Sustainers

The Sustainment Training Center provides practical technical and tactical training for all types of National Guard sustainment Soldiers.

■ By Capt. Steven A. Wallace

Last year the Army National Guard Sustainment Training Center (STC) at the Camp Dodge Joint Maneuver Training Center in Johnston, Iowa, trained more than 4,000 Soldiers from 52 different units. Since its inception in 1992, the STC has been a leader in providing collective technical and tactical sustainment training and evaluation.

At the STC, battalion staff, field maintenance, multifunctional logistics, and medical training is focused at section, platoon, and company collective levels using the latest theater-specific equipment, doctrine, and logistics systems that support the current Army structure.

The STC provides practical training enhancement solutions for the

following maintenance and logistics units:

- ☐ Brigade support battalions (BSBs) with or without subordinate units.
- ☐ Combat sustainment support battalions.
- ☐ Distribution companies.
- ☐ Field maintenance companies.
- ☐ Support maintenance companies.



*A distribution company Soldier trains on the heavy expanded-mobility tactical truck tanker aviation refueling system at the Army National Guard's Sustainment Training Center.*

- ☐ Brigade support medical companies.
- ☐ Forward support companies (FSCs).
- ☐ Area support medical companies.

### Road to Readiness

The training plan for every unit that rotates through STC begins with the unit commander's initial mission-essential task list assessment. STC subject matter experts assist unit commanders with tailoring the curriculum to the unit's Army Force Generation readiness time line and training objectives.

Whether a unit is a BSB headquarters that is building basic staff proficiency in a walk phase or is an FSC looking to achieve run-phase maintenance and distribution proficiency, the center can help the commander set and achieve those goals.

Commitment to safe operations is part of the culture at STC. Along

with receiving training on risk management and hazard mitigation, Soldiers and leaders begin each day with a daily safety briefing using the unit-prepared deliberate risk management worksheet specific to each section's operations. Soldiers hone their skills at determining risk levels and assigning effective controls to reduce risk.

### Battalion Staff Training

Battalion staff training focuses on supporting the National Guard's Mission Command Training Support Program. The primary focus is training the battalion commander's staff in the art and science of mission command by teaching the military decisionmaking process and how to use mission command systems.

Tactical and technical experts support the overall objective of improv-

ing combat readiness for the Army National Guard. Soldiers train to operate these critical sustainment systems:

- ☐ Blue Force Tracking.
- ☐ Movement Tracking System.
- ☐ Maneuver Control System.
- ☐ Command Post of the Future.
- ☐ Battle Command Sustainment Support System.

Units may also have the chance to conduct collective digital exercises either at the Camp Dodge Joint Maneuver Training Center or online.

### Functional Area Training

Companies that train at STC have the opportunity to scale each training iteration to their proficiency levels. Each section is paired with an STC collective trainer who coaches,



teaches, and mentors the platoon and section leaders to effectively train individual military occupational specialty (MOS) skills.

## Fuel and Water Platoons

Fuel and water platoons exercise individual skills during their annual training. MOS 92F (petroleum supply specialist) Soldiers conduct four different types of fuel operations:

- ☐ Bulk-to-bulk transfer.
- ☐ Retail fuel operations.
- ☐ Refuel on-the-move.
- ☐ Heavy expanded-mobility tactical truck tanker aviation refueling system operations.

Unit leaders set up, operate, and tear down the equipment at each refueling site. Water sections' MOS 92W (water treatment specialist) Soldiers purify and distribute bulk water. Each water section leader is charged with site selection, set up, purification, distribution, and tear down procedures.

## Supply Platoon Operations

Supply platoon operations are trained in the on-site supply support activity (SSA) warehouse and ammunition transfer and holding point (ATHP) training areas. MOS 92A (automated logistical specialist) Soldiers are instructed on Global Combat Service Support–Army procedures for receipt, storage, issue, and turn in. They use both a real warehouse that supports STC's maintenance training functions and a simulated warehouse that supports the logistics package (LOGPAC) concept.

MOS 89B (ammunition specialist) Soldiers train on ammunition load configuration, storage, receipt, and shipment using the Standard Army Ammunition System–Modernization. These Soldiers also learn proper vehicle inspection, load transfer documentation, and materials-handling equipment operations.

During the second week, the supply platoon typically performs sling

load resupply using live rotary-wing assets to hook and lift loads.

## Transportation Platoons

Transportation platoon leadership is exercised by conducting tactical convoys and LOGPAC operations to resupply FSCs. MOS 88M (motor transport operator) Soldiers deliver commodities that are issued by the unit's SSA, ATHP, or fuel and water platoon. They deliver supplies

standalone terminal to dispatch equipment used by each section and maintain records accurately throughout the training period.

## Maintenance Training

Each maintenance company that trains at STC can scale training by selecting work orders and specific equipment to be repaired. These work orders vary in complexity and challenge all aspects of shop and field maintenance.

Each section is paired with an STC collective trainer who coaches, teaches, and mentors the platoon and section leaders to effectively train individual military occupational specialty skills.

in LOGPACs to a logistics release point and an actual FSC distribution platoon.

The FSC distribution platoon and the distribution company also conduct a coordinated flatrack exchange in which the FSC delivers the LOGPAC to the notional maneuver unit field locations while the distribution company moves materials received from the FSC back into the SSA or ATHP. The retrograded materiel is treated as theater resupply and entered into the SSA's inventory.

## Company Command Post

The distribution company command post is routinely staffed by the operations officer, a truckmaster, and a dispatcher. The operations team monitors and assigns tasks to each of the sections. The operations officer is trained to analyze mission requirements and task each section to facilitate logistics readiness throughout the brigade support area.

The truckmaster is responsible for ensuring accuracy of equipment records, running estimates for the common operational picture, and ensuring continuity of unit operations. Dispatchers use the Standard Army Maintenance System–Enhanced

**Maintenance control.** Every maintenance control section trains on all aspects of maintenance management operations. The maintenance control officer trains in the use of maintenance status reports to prioritize tasks and prepares and conducts multiple briefings to the STC support operations officer. The maintenance control officer also ensures that the 92A Soldier, while training on logistics systems, properly orders, receives, tracks, and issues parts in coordination with the SSA.

**Automotive and track sections.** Automotive and track sections train heavily using the current maintenance computer software for troubleshooting procedures in both shop and field environments.

**Allied trades.** MOS 91E (allied trades specialist) Soldiers train on the new metalworking and machining shop set. This system modernized the Army's machining and welding systems by replacing 24 outdated, unsafe, and unsupported systems.

The STC currently has two computer numerical control (CNC) milling machines and two CNC lathes. It also has a CNC plasma table for use by Soldiers during their two-week training cycle. Soldiers



*Army National Guard medics conduct casualty evacuation training at the Camp Dodge Joint Maneuver Training Center's Sustainment Training Center in Johnston, Iowa.*

train on computer-aided design and computer-aided manufacturing software, which is then used to help machine parts.

**Armament.** The STC armament section has a generously large facility for training MOS 91F (small arms/artillery repairer) Soldiers. The section has a full complement of small arms as well as three M777A2 155-millimeter lightweight towed howitzers. The National Guard has over 95 of these howitzers in its units, which generates a critical requirement for armament maintainers to be trained on this sophisticated weapon system.

Repairers get plenty of hands-on

training. The maintenance technical manual for the M777A2 is an interactive electronic technical manual that comes on a compact disc. The disc must be loaded into a maintenance support device that comes with the system. In addition to receiving field-level armament training on the M777A2, Soldiers are taught how to operate the maintenance support device and diagnose faults.

**Communications and electronics.** Communications and electronics repairers train on the latest communications and optics equipment and troubleshooting techniques. Repairers receive instruction on installing and repairing the single channel

ground and airborne radio system and performing diagnostics with the AN/GRM-122 radio test set. Soldiers can also get training on testing and repairing Blue Force Tracking, night-vision devices, and thermal optics.

**Ground support equipment.** The STC has a vast array of modern ground support equipment for mechanics to train on. Soldiers receive training on troubleshooting and repairing various tactical quiet generators and environmental control units. Environmental Protection Agency 609 certification is also conducted. STC has an array of construction equipment for heavy equipment me-





chanics to use to sharpen their skills.

**Recovery.** The STC recovery refresher training is for qualified wheeled vehicle recovery Soldiers. The recovery teams are integrated with field maintenance teams and conduct skill training on oxy-acetylene cutting, vehicle roll-over, winching, and towing operations using unit-specific equipment, such as the M1089 family of medium tactical vehicles, M984 heavy expanded-mobility tactical truck, and the M88 recovery vehicle.

### Medical Companies

During week one, the focus is on individual tasks for each specific

MOS in the brigade support medical company. The STC's Medical Simulation Training Center focuses on providing MOS 68W (combat medic) Soldiers' necessary individual skills training.

While the 68Ws go through the 48-hour sustainment training, the remaining medical personnel perform individual tasks at a medical treatment facility (MTF), working in departments related to their respective MOSs and areas of concentration. The medical unit leaders participate in the battalion staff training and the military decisionmaking process seminar to learn their roles as leaders.

During week two, the entire brigade support medical company reunites and functions as a role 2 MTF. The focus of this second week is on collective tasks set forth by the commander's mission-essential task list and key collective tasks. The training evaluation encompasses the spectrum, from point of injury and role 1 tactical combat casualty care to evacuation and stabilization at the role 2 MTF.

The Soldiers perform hands-on medical training with the use of very realistic mannequins that react to the medical treatment being performed. The medical training is incorporated into a BSB collective field training exercise that emphasizes both technical and tactical skills. On occasion, weather permitting, air medevac loading and unloading operations are also trained during the second week with live aircraft. This program is the most comprehensive medical training in the National Guard.

### Forward Support Companies

FSC training involves many challenges due in large part to the overall complexity of the unit. These units possess sustainers with high levels of technical expertise in the fields of maintenance, field feeding, fuel and water support, and general supply.

FSC Soldiers work together to meet the logistics support requirements of brigade combat team battalions. The FSC trains to provide

logistics support as required, ensuring supplies are available when needed and critical equipment is operational.

Leaders develop support plans and execute daily resupply operations in a tactical environment. The organization is required to provide maintenance support by correctly identifying and diagnosing faults, ordering repair parts, and completing repairs as required.

To add realism, additional fragmentary orders are issued for unplanned resupply and maintenance support. The unit must then determine and adjust personnel and equipment requirements to successfully support each follow-on mission.

FSC training concludes with a culminating event and training assessment. The organization receives an operation order, a subsequent fragmentary order, and associated message traffic.

Subject matter experts evaluate the training for all company-level sustainment units at STC in accordance with the training and evaluation outlines and applicable combined arms training strategies found on the Army Training Network. This evaluation includes specific observations and training recommendations designed to further empower commanders to continue to strive for greater readiness at home station.

After an STC training cycle, sustainment unit commanders will have greater confidence that their units either can support maneuver units to standard or know what training they require to gain proficiency.

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# 8th TSC Soldiers Build Schoolhouse



*Spc. Wibbedihmbom Bonduh, an engineer with the 643rd Engineer Company, 8th Theater Sustainment Command, helps Royal Thai Army engineers set up scaffolding as they construct a schoolhouse for fifth and sixth grade children in Saraburi, Thailand, on June 27, 2015. (Photos courtesy of the 8th Theater Sustainment Command)*



*A team of U.S. Army and Royal Thai Army engineers lay rock to prepare the ground for a concrete sidewalk alongside the new schoolhouse during the Hanuman Guardian 15 exercise, which sought to enhance humanitarian assistance and disaster relief capabilities and improve local quality of life.*



*U.S. Army and Royal Thai Army engineers stand in front of the newly constructed schoolhouse. Hanuman Guardian is an annual bilateral Army-to-Army exercise co-hosted by the Royal Thai Army and U.S. Army Pacific.*





# WAVE 2 IS ON THE HORIZON

## GCSS-Army

GLOBAL COMBAT SUPPORT SYSTEM - ARMY

### WAVE 1:

SUPPLY SUPPORT  
ACTIVITIES (SSA)

RESOURCE  
MANAGEMENT  
OFFICES (RMO)

### WAVE 2:

MOTOR POOLS

UNIT SUPPLY  
ROOMS

PROPERTY  
BOOK OFFICES

## HOW UNITS ARE PREPARING:

VISIT THE  
GCSS-ARMY  
WEB PAGE  
EARLY AND  
OFTEN

TAKE  
WEB-BASED  
TRAINING

PROVIDE  
COMMAND  
EMPHASIS

CLEAN  
THE  
DATA

ISSN 2153-5973  
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### Sustainer Spotlight

*Spc. Jose Pastrana with the 432nd Transportation Company, 1st Mission Support Command, prepares cargo for offload on July 17, 2015, after a two-week, 2,700-mile convoy operation from Fort Riley, Kansas, to Fort Hunter Liggett, California. The operation was part of Nationwide Move 15, an annual exercise that provides Reserve component transportation units with realistic training by conducting operations in support of continental-United States activities. (Photo by Sgt. Victor Ayala)*

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and audio downloads here!*

